DOCUMENT RESUME

ED 418 114 TM 028 208

AUTHOR	Jenkins, Cleo R.; Wetzel, Angela-Jo
TITLE	The Results of the 1991-92 Teacher Follow-up Survey (TFS) Reinterview and Extensive Reconciliation. Working Paper Series.
INSTITUTION	National Center for Education Statistics (ED), Washington, DC.
REPORT NO	NCES-WP-95-10
PUB DATE	1995-02-00
NOTE	128p.
AVAILABLE FROM	U.S. Department of Education, Office of Educational Research and Improvement, National Center for Education Statistics, 555 New Jersey Avenue N.W., Room 400, Washington, DC 20208-5652.
PUB TYPE	Numerical/Quantitative Data (110) -- Reports - Evaluative (142)
EDRS PRICE	MF01/PC06 Plus Postage.
DESCRIPTORS	Elementary Secondary Education; Estimation (Mathematics); *Followup Studies; *Interviews; Longitudinal Studies; National Surveys; *Research Methodology; *Responses; Tables (Data)
IDENTIFIERS	Schools and Staffing Survey (NCES); *Teacher Followup Survey (NCES)

ABSTRACT

The two papers in this volume are two parts of a report on the results of the 1991-92 Teacher Follow-up Survey Reinterview and Extensive Reconciliation, a follow-up to the Schools and Staffing Survey. Part 1 (three-fourths of the report), "The Results of the 1992 Teacher Follow-up Survey Reinterview and Extensive Reconciliation," discusses the differences between the original Teacher Follow-up Survey and the reinterview and reconciliation designed to measure response variance estimates. In general, the reinterview and reconciliation did not explain differences between the original and the reinterview responses. Why this occurred, and how to remedy it for future surveys are discussed. Part II, by the same authors, "An Evaluation of the Methodology Utilized for the 1991-92 Teacher Follow-up Survey (TFS) Reinterview and Extensive Reconciliation: Part Two of a Two-Part Report," focuses on the reinterview and the extensive reconciliation methodology, and offers suggestions to improve the methodology, complementing the first part, which concentrated on improvement of the questionnaire. (Contains 61 tables in all and 15 references for each paper.) (SLD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

TM

NATIONAL CENTER FOR EDUCATION STATISTICS

Working Paper Series

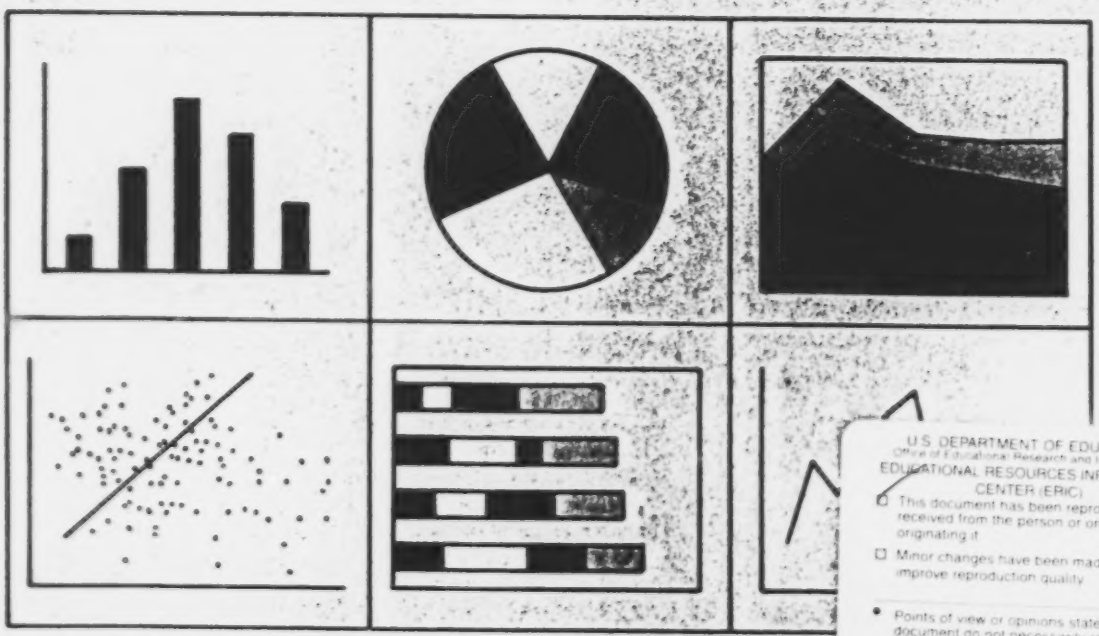
ED 418 114

The Results of the

1991-92 Teacher Follow-up Survey (TFS) Reinterv

and Extensive Reconciliation

Working Paper No. 95-10 February 1[illegible]



U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☐ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

TM028208

U.S. Department of Education
Office of Educational Research and Improvement

BEST COPY AVAILABLE

The Results of the

1991-92 Teacher Follow-up Survey (TFS) Reinterview

and Extensive Reconciliation

Working Paper No. 95-10 February 1995

Contact: Dan Kasprzyk
Education Surveys Division
(202) 219-1325

U.S. Department of Education
Richard W. Riley
Secretary

Office of Educational Research and Improvement
Sharon P. Robinson
Assistant Secretary

National Center for Education Statistics
Emerson J. Elliott
Commissioner

Elementary/Secondary Education Statistics Division
Paul D. Planchon
Associate Commissioner

National Center for Education Statistics

"The purpose of the Center shall be to collect, analyze, and disseminate statistics and other data related to education in the United States and in other nations."—Section 406(b) of the General Education Provisions Act, as amended (20 U.S.C. 1221e-1).

February 1995

Foreword

Each year a large number of written documents are generated by NCES staff and individuals commissioned by NCES which provide preliminary analyses of survey results and address technical, methodological, and evaluation issues. Even though they are not formally published, these documents reflect a tremendous amount of unique expertise, knowledge, and experience.

The *Working Paper Series* was created in order to preserve the valuable information contained in these documents and to promote the sharing of valuable work experience and knowledge. However, these documents were prepared under different formats and did not undergo vigorous NCES publication review and editing prior to their inclusion in the series. Consequently, we encourage users of the series to consult the individual authors for citations.

To receive information about submitting manuscripts or obtaining copies of the series, please contact Suellen Mauchamer at (202) 219-1828 or U.S. Department of Education, Office of Educational Research and Improvement, National Center for Education Statistics, 555 New Jersey Ave., N.W., Room 400, Washington, D.C. 20208-5652.

Susan Ahmed
Acting Associate Commissioner
Statistical Standards and
Methodology Division

Samuel S. Peng
Statistical Service and
Methodological Research

The Results of the 1992 Teacher Follow-up Survey Reinterview and Extensive Reconciliation: Part One of a Two-Part Report

by

Cleo R. Jenkins
Center for Survey Methods Research
and
Angela-Jo Wetzel
Quality Assurance and Evaluation Branch
Demographic Statistical Methods Division

March 14, 1994

Acknowlegments: The authors would like to thank Theresa J. DeMaio, John Bushery, Irwin Schreiner and Daniel Royce for reviewing and commenting on this report.

Table of Contents

Section			Page
Forward			iii
Table of Contents			v
Preface			vii
Part 1:	**The Results of the 1992 Teacher Follow-up Survey Reinterview and Extensive Reconciliation**		
I.	Executive Summary		1
	A.	Purpose	1
	B.	Major Findings	1
	C.	Recommendations	2
II.	Methodology		3
	A.	Description of the TFS Reinterview	3
	B.	Sample Selection	3
	C.	Reinterview Procedure	4
	D.	Departures from an Ideal Model for Response Variance	5
	E.	Questionnaire Development	6
	F.	Analysis	7
		1. Gross Difference Rate (GDR)	7
		2. Net Difference Rate (NDR)	8
		3. Index of Inconsistency and L-fold Index	9
III.	Results		9
	A.	Question-by-Question Review of the Current Teacher Follow-up Survey (TFS-3)	9
	B.	Question-by-Question Review of the Former Teacher Follow-up Survey (TFS-2)	40
IV.	Detailed Recommendations		56
	A.	Proposed Questionnaire Revisions for Current Teacher Follow-up Survey (TFS-3)	56
	B.	Proposed Questionnaire Revisions for Former Teacher Follow-up Survey (TFS-2)	60

Part 2: An Evaluation of the Methodology Utilized for the 1991-92 Teacher Follow-up Survey (TFS) Reinterview and Extensive Reconciliation

I. Executive Summary 1

A. Purpose 1
B. Major Findings 1
C. Recommendations 1

II. Introduction 2

II. Methodology 2

A. Description of the 1991-92 TFS Reinterview and Extensive Reconciliation 3
B. Development of the Extensive Reconciliation Probes 3
C. Gross Difference Rate (GDR) 3

IV. Results and Discussion 3

A. Dependent-Type Reinterview Produced Too Few Differences 4
B. The Reconciliation Produced Too Many Open-ended Responses 4
C. The Reconciliation Produced Too Man General Responses 9

V. Proposed Methodological Revisions 11

A. Independent Reinterview Followed By a Third-Visit Small-Scale Unstructured Reconciliation 11
B. Independent Computer-assisted Reinterview and Extensive Reconciliation 12
C. Monitored Independent CATI Reinterview Followed by a Third-Call Reconciliation 14

REFERENCES 16

Preface

The two papers contained in this volume are two parts of a report on the results of the 1991-92 Teacher Follow-up Survey (TFS) Reinterview and Extensive Reconciliation. These reports were prepared by Cleo R. Jenkins of the Center for Survey Methods Research Statistical Research Division and Angela-Jo Wetzel of the Quality Assurance and Evaluation Branch Demographic Statistical Methods Division of the United States Department of Commerce, Bureau of the Census.

These reports were presented to the U.S. Department of Education, National Center for Education Statistics in March and December of 1994.

I. Executive Summary

A. Purpose

The 1992 Teacher Follow-up Survey (TFS) Reinterview and Extensive Reconciliation attempted to uncover why respondents' answers differed between the original TFS and the reinterview. It differed from any other Census Bureau reinterview (including previous TFS reinterviews designed to exclusively measure response variance estimates). The essential difference was that it employed an extensive structured reconciliation. This report, the first of a two-part report, presents the results of the reinterview and extensive reconciliation, and offers suggestions for improving the questionnaires. The second part discusses the reinterview and reconciliation methodology and makes recommendations for improving it.

B. Major Findings

1. A subset of questions from both the Current Teacher (TFS-3) and the Former Teacher Follow-up Survey (TFS-2) were chosen for reinterview and reconciliation. A comparison of the before-reconciliation L-fold indexes of these questions (i.e., measures derived from the reinterview before the questions were reconciled) indicates that respondents had difficulty providing consistent answers to the following questions:

   TFS-3: 3b Teaching Assignment
   TFS-3: 7a Teaching Certificate in Other Field
   TFS-3: 31 Total Combined Income
   TFS-2: 32a Other Dependent Persons.

   These four questions had before-reconciliation L-fold indexes in the moderate range. The other questions either had indexes in the low range or did not meet the minimum requirements necessary to compute a reliable estimate.

2. In general, the 1992 TFS Reinterview and Extensive Reconciliation failed to provide adequate reasons for differences between the original and reinterview responses. We obtained a limited number of reasons because the reinterview failed to detect the same level of differences in respondents' answers as previous reinterviews. This was a disappointing result and, in large part, attributable to the fact that the 1992 TFS Reinterview and Extensive Reconciliation employed a dependent-type reinterview. We discuss this result in detail and offer suggestions for improving the methodology in the second part of this report.

C. **Recommendations**

1. We suggest rearranging and rewording the answer categories for the teaching assignment question (TFS-3, 3b) as follows:

   ___ **You provide instruction at more than one school (e.g., you are an itinerant, traveling, co-op, or satellite teacher).**

   ___ **You fill the role of a regular teacher on a long-term basis, but you are still considered a substitute (i.e., you are a long-term substitute teacher).**

   ___ **You are a regular full-time or part-time teacher.**

   This rearrangement gives respondents the choices of "itinerant" and "long-term substitute" before the choice of "regular," which should reduce the number of inappropriate choices of "regular." This wording also prominently displays the definitions for itinerant and substitute and minimizes technical terminology.

2. We also suggest rearranging the TFS-3 questions as follows:

   5a. Main Teaching Assignment Field
   6a. Teaching Certificate in Main Field
   6b. Type of Certificate
   6c. Certificate Granted within last 12 months
   5b. Teach Classes in Other Assignment Fields
   7a. Teaching Certificate in Other Field
   7b. Type of Certificate
   7c. Certificate Granted within Last 12 Months.

   With this arrangement, a "no" response to question 5b will cause a skip to question 8. This skip pattern improves question 7a by eliminating the troublesome "not applicable" answer category.

3. We need further research before we can suggest improvements to the income questions. (This includes question TFS-3, 31.) The results of this and other research suggest that we need to gain a better understanding of respondents' use of records. Also, we need to determine just how much measurement error in the income data the sponsor can tolerate.

4. We have no recommendation for question TFS-2, 32a. However, we provide suggestions for a number of other questions in Detailed Recommendations, Section IV.

II. Methodology

A. Description of the TFS Reinterview

The Census Bureau conducts the Schools and Staffing Survey (SASS) for the National Center for Education Statistics. The SASS is a relatively new set of integrated surveys first launched in the 1987-88 and 1990-91 school years, and scheduled every three years hence. Currently, ten self-administered questionnaires designed to obtain nationwide information on teacher and student counts, administrator and teacher backgrounds, as well as other administrator, school, and teacher-level characteristics comprise the core of the SASS.

A year after collecting information from the teachers in the SASS, the Census Bureau conducts two more surveys with sub-samples of the teachers. The first is the TFS, closely followed by the second, the TFS Reinterview. Both surveys contain a former teacher and a current teacher component. The former teacher component asks questions of respondents who have left the teaching profession since responding to the SASS. (Before selecting the sample for the TFS, the Census Bureau contacts the schools to determine which teachers have left teaching since responding to the SASS.) The current teacher component asks questions of those who have remained in the teaching profession.

The TFS' purpose is to provide information about teacher attrition and to project teacher demand (Faupel et al., 1992). The TFS, like any survey, is subject to measurement error. The purpose of the 1989 TFS Reinterview was to expressly measure one of these errors: response variance of selected questions (Waite, 1990). While measuring response variance exposed inconsistencies in respondents' answers between interviews, it did little to explain why the inconsistencies occurred. Therefore, the 1992 TFS Reinterview and Extensive Reconciliation was designed to ascertain why respondents' answers differed. The ultimate goals were: 1) to determine if respondents' answers differed because they were having difficulty comprehending the questions or the response tasks asked of them, and 2) to make recommendations for correcting these difficulties.

B. Sample Selection

The 1992 TFS Reinterview and Extensive Reconciliation included approximately 700 current teachers and 800 former teachers drawn from the TFS sample file. Working from a paper questionnaire, supervisory field

representatives (SFRs) administered the TFS Reinterview and Extensive Reconciliation by phone in the spring of 1992.

The completion rate is the number of completed reinterviews divided by the number of eligible reinterview cases. The 1992 TFS Reinterview and Extensive Reconciliation achieved a 92 percent completion rate compared to an 81 percent rate in 1989. The 1992 rate is significantly greater than the 1989 rate at the 90 percent confidence level. Table 1 shows the final status of the 1992 reinterview sample.

Table 1. Reinterview Sample and Status

Status	Total	Former Teachers	Current Teachers
Selected for Reinterview	1498	790	708
Eligible for Reinterview	1425	747	678
Completed Reinterview	1314	685	629
Switched Leaver/Stayer	17	11	6
Leavers	666	664	2
Stayers	631	10	621
Unable to Contact	59	34	25
Refused	34	15	19
Other Noninterview [1]	18	13	5
Ineligible for Reinterview Original Noninterview	73	43	30

C. Reinterview Procedure

The 1992 TFS Reinterview and Extensive Reconciliation questionnaires were designed to identify and reconcile differences between the original survey and the reinterview. All reinterview questions were asked before any of the reconciliation questions. It was decided that this approach would affect the reinterview responses less than if the reconciliation questions were asked throughout the reinterview.

---

[1] Four regional offices neglected to reinterview 18 cases (ten in Philadelphia, four in Charlotte, two in Atlanta and two in Los Angeles). We realized this late in June after closeout.

Reinterviewers were instructed in a home self-study manual to first read through all of the reinterview questions at the top of the left-hand pages. When they were done with this component of the interview, they were told to go back to the beginning of the questionnaire, and to compare respondents' reinterview responses with their original responses. Original responses were transcribed at the top of the right-hand pages. (These responses were not covered over, but clearly visible during the reinterview.) When a difference between the two responses occurred, reinterviewers were instructed to ask reconciliation probes designed to elucidate the reasons for differences in respondents' answers. These probes were printed on the questionnaire beneath the original response on the right-hand side of the page.

D. Departures from an Ideal Model for Response Variance

The ideal model of a response variance reinterview assumes a model of independent replication. With this model, responses have the same expected values across trials. The expectation is that respondents asked the same questions under the same conditions will repeatedly provide the same answer, unless a real change has occurred in the characteristic being measured. Given independent replication, differences in respondents' answers suggest that at least one failure occurred at some point in the question-response process during at least one of the interviews. Either the questions: (1) were misunderstood; (2) required information the respondents did not have, could not recall, or could not provide in the detail desired; or (3) asked for information respondents were not willing to accurately provide. Given independent replication, questions with high levels of differences exhibit these problems to a greater degree than questions with low levels. As a result, questions exhibiting high levels of differences are of the greatest concern to us because they contribute the most to measurement error.

The design of the 1992 TFS Reinterview and Extensive Reconciliation departed from the ideal in four ways. First, the original TFS responses were transcribed onto the reinterview questionnaires. Previous research demonstrates that providing the original responses on the reinterview questionnaire has a biasing effect on the reinterview responses. Furthermore, this research indicates that the index of inconsistency, a measure of response variance, is depressed even further when reconciliation questions are asked in addition to the reinterview questions (Koons, 1973).

A second way in which the TFS Reinterview and Extensive Reconciliation differed from the ideal is that the original interviewers were field representatives, while the reinterviewers were supervisory field representatives. In this case, response variance may reflect interviewer differences, rather than purely reflecting respondent or instrument error.

A third way in which the design departed from the ideal is that the 1992 TFS Reinterview and Extensive Reconciliation was administered exclusively by phone, whereas 56 percent of the original cases were self-administered. Concern about response effects due to mixed modes of administration has taken on new meaning as surveys increasingly move towards mixed modes of collection. At this time, the literature (e.g., Tarnai and Dillman, 1989; Dillman and Tarnai, 1990; Parmer et al., 1992) seems to suggest that questions concerning "subjective" phenomena are more likely to exhibit mode response effects than questions concerning "objective" phenomena. Since the reinterview questions for the 1992 TFS are mainly "objective" in nature, the mixed mode of administration should have less of an effect on the results than might otherwise be the case.

A fourth way in which the 1992 TFS Reinterview and Extensive Reconciliation departed from the ideal, and this would be true for any reinterview, lies with the effect respondents' memories play in the process. Respondents may wish to appear consistent, rather than admit they misunderstand something. To the extent this occurs, reinterview measures will be artificially depressed, leading one to erroneously conclude the questions are relatively free from problems. Blair and Sudman (1993) found between one-third to one-half of reinterview respondents reported trying to remember their original answers. Whether or not this led to artificially suppressed reinterview measures was not studied.

E. Questionnaire Development

Two methods were used to develop the extensive close-ended reconciliation questions. First, an expert analysis was conducted in which potential problems with the selected survey questions or possible reasons for differences between the two interviews were identified (see Forsyth and Lessler, 1991, for a discussion of this method). This method often yielded probes that were directed at determining if the differences between the two interviews reflected real change. Of course, this kind of finding would not indicate a problem with the questionnaire's design. An example of this situation would be if a respondent said he or she was a teacher in the original interview, but said he or she was <u>not</u> a teacher in the reinterview. In such a case, respondents were asked if they had left teaching since responding to the TFS, and if so, when they had left. The "when" question was used to determine whether the original or reinterview response was correct.

The expert analysis was also used to identify problems respondents might have understanding questions, recalling information, disclosing information, and so forth. If, for example, respondents reported the reverse of what they reported above, they were asked if they were temporarily not teaching at the time of the original interview (if, for instance, they were on spring break, vacation, sick

leave, or temporarily not teaching for some other reason). This would indicate that they misunderstood the TFS' definition of teaching.

Secondly, the findings of previous cognitive research with the 1990 Field Test Teacher Questionnaire (see Bates and DeMaio, 1990) were used to develop closed-ended probes. This information was especially helpful in identifying questions that might be susceptible to misinterpretation. For instance, the 1990 Teacher Questionnaire, the 1992 TFS, and the 1992 TFS Reinterview and Extensive Reconciliation all asked: "What is your MAIN teaching assignment at this school, that is, the field in which you teach the most classes?". Respondents are supposed to choose one field from a list of 54. Cognitive research revealed that special education teachers had a hard time choosing between the special education students (e.g., Deaf and Hard-of-Hearing) and the subjects they taught to these students (e.g., Physical Education/Health Education). Probes were developed in instances like this to expose respondents' ambiguities.

When a discrepancy occurred between a respondent's original and reinterview response, and the respondent had not chosen one of the closed-ended responses, the reconciliation of the item ended by asking an open-ended question: "Or was there some other reason [for the difference]?". The open-ended responses were compiled and subsequently coded. Statisticians developed the coding scheme. After coding approximately one-third of the write-in responses as examples and developing coding specifications, clerks in the Data Preparation Division coded the remainder.

F. Analysis

We computed three measures to analyze the data from the TFS Reinterview and Extensive Reconciliation: gross difference rate (GDR), net difference rate (NDR) and index of inconsistency. The GDR and the index are measures of response variance. The NDR is a measure of response bias. However, the 1992 TFS Reinterview and Extensive Reconciliation deviated from the assumptions necessary to ideally measure both response variance and bias. Therefore, our estimates of response variance (GDR and index) are greatly understated, while the effect on our estimate of response bias (NDR) is unknown.

1. Gross Difference Rate (GDR)

The GDR is the percentage of respondents who change their answers between the original and the reinterview. It is difficult to interpret as an exact measure. Rather, it provides only a rough idea of how consistently respondents answer a question. A large GDR shows

serious response variance in the data. It signals that the question does not provide reliable information. However, a small GDR does not guarantee high consistency in responses. The magnitude of its value depends on the question's content and expectation.

We compute a GDR before reconciliation and after reconciliation for each question. For a question with two possible answer categories, consider the 2x2 table

		Original Responses		
		Answer Category 1	Answer Category 2	
Reinterview Responses	Answer Category 1	a	b	
	Answer Category 2	c	d	n=a+b+c+d.

The GDR = (b+c)/n.

2. **Net Difference Rate (NDR)**

The NDR measures response bias using reconciled data. It tells us if we have an overcount or undercount in the original interview for a particular answer category. If the NDR for an answer category is significantly different from zero, this signals a problem with the answer category, that is, a bias exists. If the NDR is greater than zero, the category was over-reported in the original interview. If the NDR is less than zero, the category was under-reported in the original interview.

If none of the NDRs for a question's answer categories are significantly different from zero, then there is no evidence that a particular answer category creates a bias.

We compute a NDR after reconciliation for each answer category for a question. For the above 2x2 table, the NDRs are

Answer Category 1	Answer Category 2
(c-b)/n	(b-c)/n.

3. **Index of Inconsistency and L-fold Index**

In a strictly independent reinterview, the index of inconsistency measures response variance for an answer category of a question. We compute the index using unreconciled data. For the above 2x2 table, the index for category 1 is

$$I = \frac{b+c}{1/n[\{(a+c)(c+d)\} + \{(a+b)(b+d)\}]} .$$

The L-fold index measures the response variance for a question. It is the average of the indices for all the individual answer categories. We interpret both the index and L-fold as follows:

Index	Response Variance Level	Question's Interpretation
less than 20	low	not a problem
20 to 50	moderate	some problems
over 50	high	major problems.

Because the 1992 TFS Reinterview and Extensive Reconciliation was not independent, we use the L-fold index as a measure of relative rather than absolute response variance. In other words, we use the index solely as a gauge to direct us towards the more troublesome questions. Appendices A and B offer an inclusive list of these L-fold indexes for the reinterview questions by current teacher and former teacher component, respectively.

III. Results

A. Question-by-Question Review of the Current Teacher Follow-up Survey (TFS-3)

In this section we present the data for the questions chosen for reinterview from the 1992 Current Teacher Follow-up Survey (TFS-3). We attempt an explanation of the data if a question appears troublesome because of a moderate L-fold index, one or more significant NDRs, or one or more notable reasons for differences.

The number of responses listed for a question represents the total number of respondents who answered the question in both the original and the reinterview. All question numbers refer to the original (TFS-3), not the

reinterview (TFS-3R) questionnaire. We list the data for each question in a table containing up to three parts.

- Part 1 lists the question's GDRs before and after reconciliation. For monetary, state, month and year responses and check box information, a disagreement rate replaces a GDR. The disagreement rate does not consider answer categories but only whether the responses agree or diagree according to the reinterview instructions. Confidence limits at the 90% confidence level are below each GDR and disagreement rate.

- Part 2 lists each after reconciliation NDR for an answer category that is significantly different from zero at the 90 percent confidence level. Corresponding confidence limits are below each NDR. We eliminate this part if a question has no answer category with a significant NDR. Appendix C offers an inclusive list of the after reconciliation NDRs for all answer categories by question. NDRs exist only for questions where we calculated a GDR. Questions with a disagreement rate have no answer categories and therefore no NDRs. .

- Part 3 lists the reasons for differences between the question's original and reinterview responses if one or more reasons stand out. We eliminate this part if the reason counts for the question are low and evenly distributed. Appendix D offers an inclusive list of all the reasons for differences by question.

  Please note that the total number of reasons for differences does not always equal the number of response differences for a question. Our data file contains cases where the reinterviewer entered a reason for a difference when the responses agreed or failed to enter a reason for a true difference. Discrepancies therefore exist between reason counts and difference counts. (We talk about this further in the second part of this report.)

  One of the reasons for differences in many of the following tables is "Manual/General Error." It refers to write-in entries in which the respondent admitted to making some kind of mistake (e.g., "[I] first marked 8, changed to 9, forgot to erase 8." or "I forgot one zero, I guess."). Based on respondents' descriptions, these do not appear to be systematic errors; rather they seem to be random errors over which we could never hope to have control.

  Also, both "Misread Question" and "Misunderstood Question" are given as distinct reasons for differences in the tables. These are reasons respondents gave in answer to the open-ended question. We

left them as distinct, since respondents may have had different meanings in mind. To misread something suggests that a respondent failed to read the sentence as given (i.e., another word(s) registered in place of the one(s) given). This implies that respondents were capable of interpreting the sentence correctly if only they had read it correctly. This error may be impossible to correct if the respondent was simply being careless or was distracted. In contrast, the misunderstood category suggests that respondents were incapable of understanding the meaning of the given words, despite having read them correctly. A solution for this error, although not necessarily easy to identify, should exist. Please note, however, that these interpretations may or may not be true, since respondents were not probed further about either of these responses.

Cover Question. Are you currently teaching - full-time, part-time, or as a long-term substitute - in grades K through 12?

Table 2. Cover Question - 613 Responses

No. of Categories	Before Reconciliation GDR%	After Reconciliation GDR%
2	1.0 (0.3, 1.6)	no responses change with reconciliation

Question 1. Of the following, which is your MAIN activity and which, if any, is your OTHER main activity? MAIN and OTHER main activity is defined in terms of the amount of time you spend on each during the normal work week. If your time is usually divided between two occupations or activities, e.g., you are retired but have returned part-time to teaching, list either one as MAIN and the remaining one as OTHER.

This question has three parts: main activity, "other" main activity, and a check box if time is equally divided between the two activities. Reconciliation involved only the main activity response.

The NDR (-0.8%) in part 2 of Table 3 reveals that respondents tended to underreport "teaching in an elementary or secondary school" as their main activity in the original interview. Part 3 shows that nearly one-third (13) of the respondents who gave a reason for inconsistent answers said they didn't know why they did so. Another third (12) said they misunderstood the

question. Respondents probably misunderstood this item because it is long and awkward.

"Main and Other Main Activity" is an unusual way of asking someone what they primarily do and what, if anything, else they do. In fact, "Other Main Activity" is an oxymoron. Generally one thinks of main as the most important, so how can something be both classified as OTHER, meaning less than most important, and MAIN, meaning most important?

Using the words "Main" and "Other Main Activity" probably came about as a means of avoiding the words "primary" and "secondary," since cognitive research with elementary teachers revealed that they often associated the word "primary" with elementary grade levels (Bates and DeMaio, 1999). Also, the words "primary" and "secondary" suggest that a teacher's time is unequally divided between the two activities, when in fact it may be equally divided. "Other" and "Other Main Activity" probably came about as a means of avoiding this suggestion.

Table 3. Question 1 (Main Activity) - 595 Responses

Part 1. Gross Difference Rates and Confidence Limits (%)		
No. of Categories	Before Reconciliation	After Reconciliation
7	1.5 (0.7, 2.3)	1.2 (0.4, 1.9)

Part 2. Significant NDRs - After Reconciliation	
Answer Category	NDR%
Teach in elementary/secondary school	-0.8 (-1.6,-0.1)

Part 3. Reasons for Difference between Responses		
Reason	Count	Percent
Total	41	100.0
Don't know	13	31.7
Misunderstood question	12	29.3
Time divided between answer categories	4	9.8
Forgot/remembered info	3	7.3
Situation changed since responding	2	4.9
Manual/general error	2	4.9
Category problems	2	4.9
Other	1	2.4
Misunderstood reference period	1	2.4
Misread question	1	2.4

Table 4. Question 1 (Other Main Activity) - 209 Responses

No. of Categories	Before Reconciliation GDR%	After Reconciliation GDR%
7	6.7 (3.9, 9.5)	no reconciliation

Table 5. Question 1 (Time Equally Divided) - 629 Responses

No. of Categories	Before Reconciliation Disagreement Rate (%)	After Reconciliation Disagreement Rate(%)
check box (2)	4.8 (3.4, 6.2)	no reconciliation

Question 2. Which of the following categories describes your position as a school EMPLOYEE?

Table 6. Question 2 - 619 Responses

No. of Categories	Before Reconciliation GDR%	After Reconciliation GDR%
5	1.1 (0.4, 1.8)	no responses change with reconciliation

Question 3a. How much time do you work as a TEACHER at this school?

Table 7. Question 3a - 612 Responses

No. of Categories	Before Reconciliation GDR%	After Reconciliation GDR%
5	1.5 (0.7, 2.3)	no responses change with reconciliation

Question 3b. Which of the following categories best describes your teaching assignment?

Part 3 of Table 8 shows that half (6) of the respondents who gave a reason for inconsistent answers said they misunderstood the question or thought the answer categories were confusing. The NDRs in part 2 of Table 8 suggest that the problem lies with the first two answer categories: (1) Regular full-time or part-time teacher and (2) Itinerant teacher. Respondents tended to overstate being a regular full- or part-time teacher (1.6%) in the original interview, while understating being an itinerant teacher (-1.5%).

There appear to be two possible explanations for this. In the first, respondents in the original interview read through all of the answer categories, but not the parenthetical information. In this case, they do not know the definition of an "itinerant" teacher. Although the definition is provided, they do not bother to read it. Instead, they ignore this category and choose one that does make sense to them and in which they can reasonably fit: the full-time or part-time teacher category. In this case, respondents are either overlooking, ignoring, or not fully understanding the use of the word "regular" in the first answer category. Since reinterviewers are trained to read the question and answer categories exactly as worded, it is likely that respondents pick up on their mistake and change their answers in the reinterview.

In the second scenario, respondents choose the first answer category because they think it fits their situation well enough. Again, they probably overlook, ignore, or do not fully understand the word "regular." This case differs from the first in that here respondents do not bother to read the remaining answer categories.

Finally, a piece of evidence supporting the notion that the word "itinerant" is a problem comes from previous research. Cognitive research with the Public School Questionnaire revealed that many respondents did not know what an "itinerant" teacher was (Jenkins et al., 1992, p. 26). They knew "itinerant" teachers by other names, including traveling, co-op, and satellite teachers.

Table 8. Question 3b - 610 Responses

Part 1. Gross Difference Rates and Confidence Limits (%)		
No. of Categories	Before Reconciliation	After Reconciliation
3	2.0 (1.0, 2.9)	no responses change with reconciliation

Part 2. Significant NDRs - After Reconciliation	
Answer Category	NDR%
Regular full/part-time teacher	1.6 (0.7, 2.6)
Itinerant teacher	-1.5 (-2.4, -0.6)

Part 3. Reasons for Difference between Responses		
Reason	Count	Percent
Total	13	100.0
Misunderstood question	3	23.1
Category problems	3	23.1
Situation changed since responding	2	15.4
Don't know	2	15.4
Forgot/remembered info	1	7.7
Manual/general error	1	7.7
FR error	1	7.7

Question 4. If you are a full-time school or district employee with less than a full-time teaching assignment, which of these best describes your other assignment at this school?

Part 3 of Table 9a shows that nearly half (9) of the respondents who gave a reason for inconsistent answers said they didn't know why. We thought that perhaps respondents had difficulty understanding the phrase "If you are a full-time school or district employee with less than a full-time teaching assignment." As a result, we hypothesized that respondents neglected to correctly mark the "not applicable" answer category in one of the interviews and marked the "other" box and wrote in "full-time teacher" in the other interview.

We looked at the data more closely to see if this was the case. Table 9b shows that, indeed, respondents had trouble with the "not applicable" answer category. All fourteen respondents who answered this question inconsistently marked the "not applicable" category in one of the interviews. However, the data reveal that only four respondents marked the "other" box in the other interview. The vast majority of respondents (10) specified a particular assignment.

Assuming that respondents wouldn't mistakenly report being an administrator (for instance) in one of the interviews if in fact they weren't actually an administrator, these data suggest that respondents are incorrectly marking the "not applicable" category in one of the interviews. This mistake still implies that respondents are having difficulty understanding the question, and we still think that this difficulty is related to misinterpreting the phrase "If you are a full-time school or district employee with less than a full-time teaching assignment."

Table 9a. Question 4 - 518 Responses

Part 1. Gross Difference Rates and Confidence Limits (%)		
No. of Categories	Before Reconciliation	After Reconciliation
8	2.7 (1.5, 3.9)	no responses change with reconciliation

Part 3. Reasons for Difference between Responses		
Reason	Count	Percent
Total	20	100.0
Don't know	9	45.0
Missed skip pattern/question	3	15.0
More than one category fits situation	2	10.0
Wasn't sure what one/more categories meant	2	10.0
Misunderstood question	2	10.0
Other	1	5.0
Category problems	1	5.0

Table 9b. Distribution of Interview and Reinterview Response Differences to Question 4

Interview Response	Reinterview Response	Count
Total	Total	14
An Assignment	Not Applicable	6
Not Applicable	An Assignment	4
Other	Not Applicable	2
Not Applicable	Other	2

Question 5a. What is your MAIN teaching assignment at this school, that is, the field in which you teach the most classes?

This question has two parts: main assignment field and a check box if the respondent's teaching assignment is equally divided between fields. Reconciliation involved only the main assignment field. To answer this question, the respondent chose a teaching assignment field (e.g., Biology) from a list of 54 fields. The list was divided into seven subject areas (e.g., Science). To ease analysis, we collapsed the 54 fields into the seven subject areas. Attachment 1 lists the 54 fields by subject area.

The GDR (1.6 %) in Table 10 shows that for the most part respondents consistently chose a field from within the same subject area (e.g., they chose a science field in both interviews). Please note, however, that this is not the same as saying they chose the same field both times. Because we collapsed the fields, we are not capable of discerning whether they chose the same field. At this level of analysis, this question appears to be relatively trouble free.

Table 10. Question 5a (Main Teaching Assignment) - 617 Responses

No. of Categories	Before Reconciliation GDR%	After Reconciliation GDR%
7	1.6 (0.8, 2.5)	1.5 (0.7, 2.3)

Table 11. Question 5a (Teaching Assignment Equally Divided) - 629 Responses

No. of Categories	Before Reconciliation Disagreement Rate (%)	After Reconciliation Disagreement Rate(%)
check box (2)	3.0 (1.9, 4.1)	no reconciliation

Question 5b. Do you teach classes in OTHER fields at this school?

If respondents answered "yes" to this question, they were asked a follow-up question: **In what field do you teach the second most classes?** To answer this question, the respondent chose from the same 54 fields listed for Question 5a. We again grouped these fields into the same seven subject areas for analysis.

The NDR (-3.4%) in part 2 of Table 13 reveals that respondents tended to underreport the "special areas" categories in the first interview. The reason for this is not clear. The GDR (3.4%) for this question is greater than that for the previous comparable question (1.6%). However, part 3 of Table 13 shows that 40 percent (4) of the respondents reported legitimate reasons for answering this question inconsistently. They either taught both fields and reported one in the original and the other in the reinterview (3), or they changed fields since responding (1). Most respondents, however, reported "don't know" (5) rather than the reasons we expected. We thought respondents might have problems deciding whether to report the population to which they teach (such as the gifted or mentally retarded) or the subject matter they teach (such as English or Music). (One respondent gave that reason.) We also thought respondents might have problems distinguishing between some of the answer categories, such as basic skills and remedial education versus special education. (No one gave that reason.)

Table 12. Question 5b (Yes/No Response) - 562 Responses

No. of Categories	Before Reconciliation GDR%	After Reconciliation GDR%
2	3.7 (2.4, 5.1)	3.0 (1.8, 4.2)

Table 13. Question 5b (Field Code) - 117 Responses

Part 1. Gross Difference Rates and Confidence Limits (%)		
No. of Categories	Before Reconciliation	After Reconciliation
7	3.4 (0.7, 6.2)	no responses change with reconciliation

Part 2. Significant NDRs - After Reconciliation	
Response Category	NDR%
Special areas	-3.4 (-7.6, -0.4)

Part 3. Reasons for Difference between Responses		
Reason	Count	Percent
Total	10	100.0
Don't know	5	50.0
Teach both assignments	3	30.0
Other assignment changed since responding	1	10.0
Wasn't sure whether to report population/subject	1	10.0

Question 6a. Do you have a teaching certificate in this State in this MAIN teaching assignment field?

This question has two reconciliation questions for determining the reasons for response differences. Reconciliation question 1 applied when the respondent answered "no" in the original interview and "yes" in the reinterview. Reconciliation question 2 applied when the reverse situation existed. We combined the reasons from the two reconciliation questions in Appendix D.

Table 14. Question 6a - 616 Responses

No. of Categories	Before Reconciliation GDR%	After Reconciliation GDR%
2	1.5 (0.7, 2.3)	no responses change with reconciliation

Question 6b. What type of certificate do you hold in this field?

The NDR (1.5%) in part 2 of Table 15 reveals that respondents tended to over-report having an advanced professional certificate in the original interview. Part 3 of Table 15 shows that 40.6 percent (13) of the respondents who gave a reason for inconsistent answers said they had problems understanding the answer categories. Approximately 15 percent (5) said that none of the choices adequately described their certificate, and 12 percent (4) said that they didn't know what kind of certification they had.

Table 15. Question 6b - 523 Responses

Part 1. Gross Difference Rates and Confidence Limits (%)		
No. of Categories	Before Reconciliation	After Reconciliation
4	6.3 (4.6, 8.1)	5.4 (3.7, 7.0)

Part 2. Significant NDRs - After Reconciliation	
Response Category	NDR%
Advanced professional certificate	1.5 (0.2, 2.8)

Part 3. Reasons for Difference between Responses		
Reason	Count	Percent
Total	32	100.0
Wasn't sure what one or more categories meant	13	40.6
No choice described certification	5	15.6
Don't know what certification they have	4	12.5
Misunderstood question	2	6.3
Forgot/remembered information	2	6.3
Other	2	6.3
Received certificate since responding	1	3.1
Missed skip pattern/question	1	3.1
Refused to answer in one interview	1	3.1
Don't know	1	3.1

Question 6c. Was this certificate granted within the last 12 months?

Table 16. Question 6c - 451 Response

No. of Categories	Before Reconciliation GDR%	After Reconciliation GDR%
2	3.8 (2.3, 5.2)	no responses change with reconciliation

Question 7a. Do you have a teaching certificate in this state in your OTHER teaching assignment field at this school?

Similar to Question 6a, this question has two reconciliation questions. Reconciliation question 1 applied when the respondent answered "no" in the original interview and "yes" in the reinterview. Reconciliation question 2 applied when the reverse situation existed. We combined the reasons from the two reconciliation questions in Table 17a and in Appendix D.

The before reconciliation GDR (13.4 percent) in part 1 of Table 17a is one of the largest obtained for this questionnaire, suggesting that respondents had problems answering this question consistently. In part 3 of Table 17a, sixty percent (22) of the respondents who gave a reason for inconsistent answers said they either didn't know why their answers differed or they misunderstood the question. The NDRs, however, suggest the problem lies with the "no" and "not applicable" answer categories. The NDRs for these categories in part 2 of Table 17a are 5.4 and -6.6, respectively. They indicate that respondents had a tendency to overstate or say "no" in the original interview in lieu of "not applicable."

Originally, we thought that this finding was due to mode differences. We hypothesized that mail respondents marked "no" in response to this question because they thought it sufficed. We reasoned that they never came across the more appropriate answer, "not applicable." For respondents who answered "no" to a previous question, "5b. Do you teach classes in OTHER fields at this school?", we figured that the reinterviewers, trained to read through all the answer categories, recognized that "not applicable" was correct and conveyed this to respondents. This would explain why respondents were unable to verbalize their mistake during the reconciliation. Their mistake was due to not perceiving an answer category rather than not understanding it.

A review of edit change rates from the 1991 SASS seemed to confirm this hypothesis (Jenkins, 1992a). The edit change rate is the percentage of eligible

cases whose answers changed because of inconsistencies in the data. The edit change rate for this question was high (35%). Presumably, respondents' answers changed from "no" to "not applicable" during the edit because they responded "no" to the earlier question, "Do you teach classes in OTHER fields at this school?".

Also, Bates and DeMaio (1990) learned through cognitive research with this question that respondents marked "no" because they didn't realize there was a better choice, "not applicable."

Therefore, we looked at the reinterview data by mode to see if our hypothesis was directly substantiated. A closer inspection does indeed show that the vast majority of respondents (42) systematically reported "no" in the original interview and "not applicable" in the reinterview. These data are presented in Table 17b. The other five response combinations only contain from 4 to 11 cases. However, the data do not substantiate that this mistake was more likely to occur without an interviewer as with one. Table 17c shows that forty-seven percent (18 of 38) of the self-administered respondents reported "no" then "not applicable" compared to sixty-four percent (21 of 33) of the interviewer-administered respondents. Neither of these percentages are significantly different from their expected values at the 90 percent confidence level. Interviewers seem to be administering the question in a solidly standardized fashion, and for some unknown reason respondents are systematically interpreting the question differently in the two interviews.

Table 17a. Question 7a - 595 Responses

Part 1. Gross Difference Rates and Confidence Limits (%)		
No. of Categories	Before Reconciliation	After Reconciliation
3	13.4 (11.1, 15.7)	13.1 (10.8, 15.4)

Part 2. Significant NDRs - After Reconciliation	
Response Category	NDR%
No	5.4 (3.2, 7.6)
Not applicable	-6.6 (-8.8, -4.3)

Part 3. Reasons for Difference between Responses		
Reason	Count	Percent
Total	36	100.0
Don't know	17	47.2
Misunderstood question	5	13.9
Missed skip pattern/question	3	8.3
Other	3	8.3
Realized certificate is in other field	2	5.6
Realized certificate applies to another state	2	5.6
Realized certificate is not in other field	2	5.6
Forgot/remembered info	1	2.8
FR error	1	2.8

Table 17b. Original and Reinterview Responses to Question 7a.

Interview-Reinterview Response	Count	Percent
Total	80	100.0
Yes-No	6	7.5
Yes-NA	11	13.8
No-Yes	6	7.5
No-NA	42	52.5
NA-Yes	4	5.0
NA-No	11	13.8

Table 17c. Percent of No-NA Responses by Original Interview's Mode of Administration

	Mode of Administration		
Interview-Reinterview Response	Mail	Telephone	Total N
No-NA	18	21	39
All other combinations	20	12	32
Total N	38	33	71[1]

$X^2=1.87$ d.f.=1 $p>.10$

[1] Nine cases were treated as missing because they could not be identified by mode.

Question 7b. What type of certificate do you hold in this field?

Table 18. Question 7b - 67 Responses

No. of Categories	Before Reconciliation GDR%	After Reconciliation GDR%
4	9.0 (3.2, 14.7)	no responses change with reconciliation

Question 7c. Was this certificate granted within the last 12 months?

Table 19. Question 7c - 61 Responses

No. of Categories	Before Reconciliation GDR%	After Reconciliation GDR%
2	1.6 (-1.0, 4.3)	no responses change with reconciliation

Question 8. In what grade levels are the students in your classes at THIS school?

For this question, the respondents marked all answer categories that applied. For our analysis, we considered each of the 16 answer categories as a separate question with two possible answer categories: marked and unmarked.

Although not statistically significant, the GDRs given in part 1 of Table 20 appear to exhibit a slight curvilinear relationship. The GDRs tend to increase until they reach a maximum at the 5th grade, after which they tend to decrease. Furthermore, part 2 of this same table suggests that respondents tended to overreport students in the 4th through 8th grades in the original interview.

Respondents' reasons for inconsistent answers given in part 3 shed some light on these results.

- A third (16) of the respondents said they did not know why a difference occurred.

- However, another third (15) reported misunderstanding some aspect of the question. Specifically, they reported misunderstanding what was meant by "grade level or class (4), or they weren't certain if they should report either the grade levels of students they sometimes teach (4) or classes with only a few students (1). Or else, they simply reported misunderstanding the question (6).

- Three respondents had difficulty because they taught special students. These respondents either had trouble reporting the equivalent grade levels for the students, or they were not certain whether they should report them as ungraded or in their equivalent graded levels.

All of this suggests the intent of this question is not perfectly clear to respondents.

Table 20. Question 8 - 629 Responses

Part 1. Gross Difference Rates and Confidence Limits (%)				
Answer Category	Before Reconciliation GDR%	Limits	After Reconciliation GDR%	Limits
Ungraded	0.2	(-0.1, 0.4)	no responses change	
Prekindergarten	0.6	(0.1, 1.2)	no responses change	
Kindergarten	1.9	(1.0, 2.8)	no responses change	
1st	2.5	(1.5, 3.6)	2.4	(1.4, 3.4)
2nd	3.0	(1.9, 4.1)	no responses change	
3rd	2.5	(1.5, 3.6)	no responses change	
4th	2.9	(1.8, 4.0)	no responses change	
5th	3.2	(2.0, 4.3)	2.9	(1.8, 4.0)
6th	1.9	(1.0, 2.8)	1.6	(0.8, 2.4)
7th	2.7	(1.6, 3.8)	2.4	(1.4, 3.4)
8th	2.7	(1.6, 3.8)	2.4	(1.4, 3.4)
9th	2.5	(1.5, 3.6)	2.2	(1.3, 3.2)
10th	2.1	(1.1, 3.0)	no responses change	
11th	1.7	(0.9, 2.6)	no responses change	
12th	1.9	(1.0, 2.8)	no responses change	
Postsecondary	0.5	(0.0, 0.9)	no responses change	

Part 2. Significant NDRs (%) - After Reconciliation

Answer Category	Marked NDR%	Marked Limits	Not Marked NDR%	Not Marked Limits
4th	1.3	(0.1, 2.4)	-1.3	(-2.4, -0.1)
5th	1.6	(0.5, 2.7)	-1.6	(-2.7, -0.5)
6th	1.0	(0.1, 1.8)	-1.0	(-1.8, -0.1)
7th	1.4	(0.4, 2.5)	-1.4	(-2.5, -0.4)
8th	1.7	(0.7, 2.8)	-1.7	(-2.8, -0.7)

Part 3. Reasons for Difference between Responses

Reason	Count	Percent
Total	49	100.0
Don't know	16	32.7
Misunderstood question	6	12.2
Teaching different students since responding	4	8.2
Unsure whether to report grade levels of students sometimes taught	4	8.2
Misunderstood what "grade level/class" meant	4	8.2
Forgot/remembered info	4	8.2
FR error	3	6.1
Teach special students - difficulty reporting equivalent graded levels	2	4.1
Other	2	4.1
Misunderstood reference period	2	4.1
Teach special students - unsure whether to report as "ungraded" or equivalent graded levels	1	2.0
Unsure whether to report level of classes with few students	1	2.0

Question 9. Which of the following best describes the community in which this school is located?

This question has a misprint on the reinterview questionnaire. Answer category 6 should read "A suburb of a large city." Instead, it reads "A suburb of a very large city," the same as answer category 8. This misprint might have confused reinterviewers. Five respondents changed between answer categories 6 and 8 from the original to the reinterview.

The answer categories for this question gave respondents trouble. As shown in part 3 of Table 21, approximately one-third (14) of the respondents who gave a reason for inconsistent answers said that they weren't sure of the population of their school's community. One-fourth (11) said that more than one answer category applied. These results are consistent with those of cognitive research on this item (Jenkins and DeMaio, 1990).

This question was dropped from the SASS subsequent to the TFS reinterview. However, the results of the reinterview support this decision.

Table 21. Question 9 - 617 Responses

Part 1. Gross Difference Rates and Confidence Limits (%)

No. of Categories	Before Reconciliation	After Reconciliation
11	8.3 (6.4, 10.1)	7.5 (5.7, 9.2)

Part 3. Reasons for Difference between Responses

Reason	Count	Percent
Total	43	100.0
Wasn't sure of population of community	14	32.6
More than one category describes community	11	25.6
Don't know	9	20.9
Misunderstood question	4	9.3
FR error	2	4.7
Other	2	4.7
Missed skip pattern/question	1	2.3

Question 10. Are you currently teaching in the SAME school as you were last year when you completed the Schools and Staffing Survey?

Table 22. Question 10 - 619 Responses

No. of Categories	Before Reconciliation GDR%	After Reconciliation GDR%
2	1.6 (0.8, 2.4)	1.5 (0.7, 2.2)

Question 11. Are you currently teaching in the same state as you were last year when you completed the Schools and Staffing Survey?

If respondents answered "no" to this question, they were asked a follow-up question: **In which state or country are you now teaching?** To answer this question, they supplied a two-letter abbreviation in the box provided and wrote-in the name of the state or country on the line provided.

Table 23. Question 11 (Yes/No Response) - 179 Responses

No. of Categories	Before Reconciliation GDR%	After Reconciliation GDR%
2	0.0 (0.0, 0.0)	no responses change with reconciliation

Table 24. Question 11 (State Code) - 33 Responses

No. of Categories	Before Reconciliation Disagreement Rate (%)	After Reconciliation Disagreement Rate(%)
State Code (2)	6.1 (-0.8, 12.9)	no responses change with reconciliation

Question 12. Which of the following best describes your move from last year's school to this year's school?

Table 25. Question 12 - 179 Responses

No. of Categories	Before Reconciliation GDR%	After Reconciliation GDR%
5	2.2 (0.4, 4.1)	no responses change with reconciliation

Question 13. Is the private school in which you currently teach affiliated with the Roman Catholic Church or another religious organization, or is it non-religious?

Table 26. Question 13 - 33 Responses

No. of Categories	Before Reconciliation GDR%	After Reconciliation GDR%
3	0.0 (0.0, 0.0)	no responses change with reconciliation

Questions 29.b.(1-3) - Earnings

Questions 29b(1) through 29b(3) all refer to before-tax earnings from teaching and other employment from the summer of 1991 through the end of the 1991-92 school year.

- Question 29b(1) requires a monetary response only. According to reinterview instructions, the dollar values disagree if they exceed a $1,000.00 difference.

- Question 29b(2) requires two responses: a yes/no response and a monetary response if respondents answer "Yes" to "additional compensation for extra curricular or addition activities." According to reinterview instructions, the dollar values disagree if they exceed a $100.00 difference.

- Question 29b(3) also requires two responses: a yes/no response and a monetary response if respondents answer "Yes" to "additional compensation from outside school system." According to reinterview

instructions, the dollar values disagree if they exceed a $100.00 difference.

Respondents had difficulty reporting monetary values in all three questions. The before reconciliation disagreement rates in part 1 of Tables 27, 29 and 31 show this. They range from approximately 14 to 25 percent. The predominant reason for monetary differences is that respondents were unsure of the exact amount of their earnings. Part 3 of Tables 27, 29 and 31 show that over half of the respondents who gave a reason for inconsistent answers offered this as their reason. This suggests that respondents do not have easily accessible, precise figures stored in memory to accurately answer the monetary questions. It also suggests an inability or unwillingness on the respondent's part to look up appropriate records which may exist.

Question 29b(1). What is your academic base year salary for teaching in this school?

Table 27. Question 29b(1) - 629 Responses

Part 1. Disagreement Rates and Confidence Limits (%)		
No. of Categories	Before Reconciliation	After Reconciliation
$ Value (2)	14.8 (12.5, 17.1)	10.5 (8.5, 12.5)

Part 3. Reasons for Difference between Responses		
Reason	Count	Percent
Total	109	100.0
Unsure of exact amount	71	65.1
Salary changed since responding	9	8.3
Don't know	9	8.3
Included other salary earnings	4	3.7
Misunderstood question	3	2.8
FR error	3	2.8
Included another source of income	2	1.8
Forgot/remembered info	2	1.8
Misunderstood reference period	2	1.8
Manual/general error	2	1.8
Wasn't sure how to report as an itinerant teacher	1	0.9
Gave after-tax earnings	1	0.9

Question 29b(2). Do you, or will you earn any additional compensation from your school for extra curricular or additional activities such as coaching, student activity sponsorship, or evening classes? If yes, how much?

For the yes/no portion of this question, approximately one-third (14) of the respondents who gave a reason for inconsistent answers said their activities changed since responding. This is a legitimate excuse and does not reflect a questionnaire problem.

However, both the yes/no and the monetary portions of this question suggest that respondents' memories do contribute to response differences. Part 3 of Table 28 shows that 20 percent (9) of the respondents who gave a reason for yes/no differences said they either remembered or forgot activities between the original interview and the reinterview. Likewise, in part 3 of Table 29, 25 percent (6) of the respondents gave this reason for monetary differences.

Still, as mentioned above for all the earnings questions, the leading reason for monetary differences is that respondents were unsure of the exact amount of their earnings.

Table 28. Question 29b(2) (Yes/No Response) - 588 Responses

Part 1. Gross Difference Rates and Confidence Limits (%)		
No. of Categories	Before Reconciliation	After Reconciliation
3	4.6 (3.2, 6.0)	3.7 (2.5, 5.0)

Part 3. Reasons for Difference between Responses		
Reason	Count	Percent
Total	45	100.0
Taken on/given up activities since responding	14	31.1
Remembered/forgot activities	9	20.2
Don't know	8	17.8
Unsure what "additional compensation" meant	5	11.1
Other	2	4.4
Missed skip pattern/question	2	4.4
Changed jobs since responding	1	2.2
Misunderstood question	1	2.2
Manual/general error	1	2.2
FR error	1	2.2
Didn't know what to include/exclude	1	2.2

Table 29. Question 29b(2) (Monetary Response) - 167 Responses

Part 1. Disagreement Rates and Confidence Limits (%)		
No. of Categories	Before Reconciliation	After Reconciliation
$ Value (2)	20.4 (15.2, 25.5)	18.6 (15.2, 25.5)

Part 3. Reasons for Difference between Responses		
Reason	Count	Percent
Total	24	100.0
Wasn't sure of exact amount	13	54.2
Remembered/forgot activities	6	25.0
Reported expected earnings	2	8.3
Don't know	1	4.2
Unsure what "additional compensation meant	1	4.2
Misunderstood question	1	4.2

Question 29b(3). Do you, or will you, earn additional compensation from working in any job outside the school system? If yes, how much?

For the yes/no response, the NDRs in part 2 of Table 30 reveal that respondents tended to underreport earning additional compensation from jobs outside the school system in the first interview. One explanation for this could be that the act of answering the first interview prompted respondents to remember additional compensation in the second interview. However, only a couple of respondents offered this reason. Part 3 of Table 30 shows that 30 percent (14) of the respondents said they either misunderstood the question, misunderstood the reference period or were unsure of what constituted a job outside of the school system.

For the monetary response, Part 3 of Table 31 again shows that the leading reason for differences is that respondents were unsure of the exact amount of their earnings.

Table 30. Question 29b(3) (Yes/No Response) - 599 Responses

Part 1. Gross Difference Rates and Confidence Limits (%)		
No. of Categories	Before Reconciliation	After Reconciliation
3	5.8 (4.3, 7.4)	5.5 (4.0, 7.0)

Part 2. Significant NDRs - After Reconciliation	
Response Category	NDR%
Yes	-2.7 (-4.2, -1.1)
No	2.5 (0.9, 4.1)

Part 3. Reasons for Difference between Responses		
Reason	Count	Percent
Total	46	100.0
Don't know	13	28.3
Unsure what constituted job	7	15.2
Took up job since responding	4	8.7
Misunderstood question	4	8.7
Missed skip pattern/question	3	6.5
Misunderstood reference period	3	6.5
Quit job since responding	2	4.3
Other	2	4.3
Forgot/remembered info	2	4.3
FR error	2	4.3
Didn't know what to include/exclude	2	4.3
Refused to answer in one interview	1	2.2
Manual/general error	1	2.2

Table 31. Question 29b(3) (Monetary Response) - 105 Responses

Part 1. Disagreement Rates and Confidence Limits (%)		
No of Categories	Before Reconciliation	After Reconciliation
$ Value (2)	25.7 (18.7, 32.7)	23.6 (16.8, 30.4)

Part 3. Reasons for Difference between Responses		
Reason	Count	Percent
Total	14	100.0
Wasn't sure of exact amount	8	57.2
Reported expected earnings	2	14.2
Don't know	2	14.3
Refused to answer in one interview	1	7.1
Misunderstood reference period	1	7.1

Question 29b(3a). Which of these best describes this job outside the school system?

Table 32. Question 29b(3a) - 111 Responses

No. of Categories	Before Reconciliation GDR%	After Reconciliation GDR&
4	5.4 (1.9, 8.9)	4.5 (1.3, 7.7)

Question 30. Do you receive any income-in-kind in addition to or in lieu of your school salary?

For this question, respondents marked all answer categories that applied. Twenty cases, or approximately three percent, have multiple responses. For our analysis, we deleted these cases and considered the question as a single-response question with eight possible answer categories.

The results suggest that respondents had problems understanding what was meant by "income-in-kind." Part 3 of Table 33 shows that almost half (11) of the respondents who gave a reason for inconsistent answers said they were

unsure what to report as income-in-kind, including whether to report partial income-in-kind. Cognitive research substantiates this finding, as demonstrated by the following excerpt from an interview with a private school teacher (DeMaio, 1990):

> ... [the respondent] said that he received a tuition break, not full tuition, for his children, so he wasn't sure if he should mark "tuition for your children" or not. He decided he shouldn't.

Table 33. Question 30 - 586 Responses

Part 1. Gross Difference Rates and Confidence Limits (%)		
No. of Categories	Before Reconciliation	After Reconciliation
8	2.9 (1.8, 4.0)	2.6 (1.5, 3.6)

Part 3. Reasons for Difference between Responses		
Reason	Count	Percent
Total	23	100.0
Wasn't sure what to report as income-in-kind	7	30.4
Unsure whether to report partial income-in-kind	4	17.4
Don't know	3	13.0
Income-in-kind changed since responding	2	8.7
Missed skip pattern/question	2	8.7
Forgot/remembered info	2	8.7
Other	1	4.3
Manual/general error	1	4.3
Misread question	1	4.3

Question 31. Which category represents the total combined income (include your own income) of ALL FAMILY MEMBERS age 14 and older in your household during 1991? Include money from jobs, net business or farm income, pensions, dividends, interest, rent, social security payments, and any other income received by family members in your household.

The before reconciliation GDR (16.2 percent) in part 1 of Table 34 is the largest of any of the closed-ended questions on this questionnaire. It suggests that respondents had difficulty answering this question consistently. Part 3 of Table 34 shows that nearly half (41) of the respondents who gave a reason for

inconsistent answers said they were unsure of the exact amount. Again, this suggests that they do not have an easily accessible, precise figure stored in memory to accurately answer the question. A cross tabulation of inconsistent answers between the reinterview and original interview shows that respondents tended to choose answer categories that were next to each other in the two interviews. For instance, a respondent might choose the answer category $15,000-$19,000 in the original interview and $20,000-$24,000 in the reinterview, or vice versa. This information is summarized in Graph 1.

A group of reasons in Part 3 of Table 34, making up approximately 25 percent (21) of the total reasons, indicates that respondents also have difficulty completely understanding this question. These reasons include not being sure what to include or exclude, misunderstanding the reference period, not being sure whether to include adult children and generally misunderstanding the question.

Table 34. Question 31 - 604 Responses

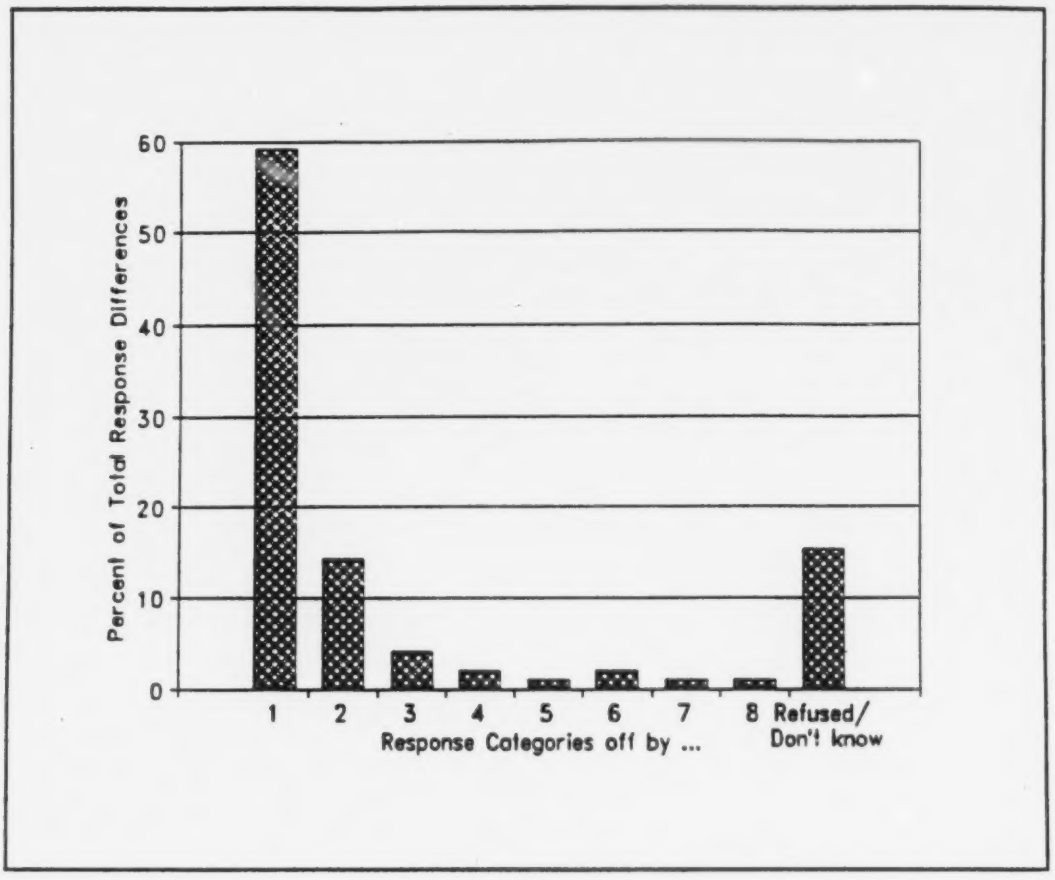
Part 1. Gross Difference Rates and Confidence Limits (%)

No. of Categories	Before Reconciliation	After Reconciliation
13	16.2 (13.8, 18.7)	12.9 (10.7, 15.2)

Part 3. Reasons for Difference between Responses

Reason	Count	Percent
Total	84	100.0
Unsure of exact amount	41	48.8
Don't know	11	13.1
Unsure what to include/exclude	8	9.5
Misunderstood reference period	7	8.3
Wasn't sure whether to include adult children	4	4.8
FR error	4	4.8
Misunderstood question	2	2.4
Refused to answer in one interview	2	2.4
Other	1	1.2
Missed skip pattern/question	1	1.2
Forgot/remembered info	1	1.2
Manual/general error	1	1.2
Misread question	1	1.2

Graph 1. Question 31 - 98 Response Differences



B. Question-by-Question Review of the Former Teacher Follow-Up Survey (TFS-2)

In this section we analyze the reinterview questions from the 1992 Former Teacher Follow-up Survey (TFS-2). We use the same table format and criteria for explanations as above. Again, all question numbers refer to the original (TFS-2), not the reinterview (TFS-2R) questionnaire.

Appendix E offers an inclusive list of the after reconciliation NDRs for all answer categories by question. Appendix F offers an inclusive list of all the reasons for differences for each question.

Cover Question - Are you currently teaching - full-time, part-time, or as a long-term substitute - in grades K through 12?

Table 35. Cover Question - 683 Responses

No. of Categories	Before Reconciliation GDR(%)	After Reconciliation GDR(%)
2	1.6 (0.8, 2.4)	1.5 (0.7, 2.2)

Question 1. What is your MAIN OCCUPATIONAL status?

Part 3 of Table 36 shows that a third (11) of the respondents who gave a reason for inconsistent answers said their occupational status changed since responding to the TFS. This does not indicate a problem with the questionnaire. However, another third reported that the answer categories were confusing or that they did not fit their situations. The NDRs in Part 2 of Table 36 reveal that respondents tended to overstate the first and last answer categories in the original interview. The overstated categories are "working in a elementary or secondary school with assignment OTHER THAN teaching" (NDR=0.8%) and "other" (NDR=1.5%), respectively.

The first answer category may be too long and complicated for respondents to understand. Perhaps they simplify it to fit their situation and see instead, "an assignment OTHER THAN teaching." The fact that respondents had a tendency to choose the "other" category in the first interview further demonstrates that they had trouble matching their situations to one of the forced choices, which is consistent with the reason they gave during reconciliation.

Table 36. Question 1 - 664 Responses

Part 1. Gross Difference Rates and Confidence Limits (%)		
No. of Categories	Before Reconciliation	After Reconciliation
7	6.9 (5.3, 8.5)	6.2 (4.6, 7.7)

Part 2. Significant NDRs - After Reconciliation	
Response Category	NDR%
Working in elementary/secondary school with assignment OTHER THAN teaching	0.8 (0.1, 1.4)
Other	1.5 (0.2, 2.8)

Part 3. Reasons for Difference between Responses		
Reason	Count	Percent
Total	33	100.0
Occupational status changed since responding	11	33.3
Category problems	11	33.3
Misunderstood question	4	12.1
Other	3	9.1
FR error	2	6.1
Forgot/remembered info	1	3.0
Manual/general error	1	3.0

Question 2. What is your MAIN school assignment?

Table 37. Question 2 - 74 Responses

No. of Categories	Before Reconciliation GDR(%)	After Reconciliation GDR(%)
6	2.7 (-0.4, 5.8)	no responses change with reconciliation

Question 3a. For whom do you work?

Since this question required a write-in response, we did not compute any measures for it. However, we do include the reasons for the difference between the reinterview and original responses in Appendix F.

Question 4. Which of these best describes your position as an EMPLOYEE?

Table 38. Question 4 - 185 Responses

No. of Categories	Before Reconciliation GDR(%)	After Reconciliation GDR(%)
5	1.6 (0.1, 3.1)	no responses change with reconciliation

Question 5. Altogether, how much do you usually earn at this job before deductions?

This question requires two responses: a monetary and a pay period response. The disagreement rate for the monetary response includes in its base only those cases where the pay periods agree. According to reinterview instructions, the dollar values disagree if the pay periods are the same and the dollar values differ by

- $1.00 or more per hour
- $5.00 or more per day
- $20.00 or more per week
- $50.00 or more biweekly
- $100.00 or more per month
- $1,000.00 or more per year.

Reinterviewers reconciled responses if the dollar values disagreed or if the pay periods differed.

The results here are similar to those for the income questions (29b(1-3)) from the Current Teacher Follow-up Survey (TFS-3). Respondents had difficulty reporting their earnings consistently. Table 39 shows that 21 percent (31) of the respondents gave different monetary responses for the same pay period. Part 3 of Table 40 shows that 35 percent (18) of the respondents who gave a reason for inconsistent answers said they weren't sure of the exact amount. Another 15 percent (8) said they weren't sure what to report as earnings.

Table 39. Question 5 (Monetary Response) - 151 Responses

No. of Categories	Before Reconciliation Disagreement Rate (%)	After Reconciliation Disagreement Rate(%)
$ Value (2)	20.5 (15.1, 25.9)	17.5 (12.5, 22.6)

Table 40. Question 5 (Pay Rate Response) - 167 Responses

Part 1. Gross Difference Rates and Confidence Limits (%)

No. of Categories	Before Reconciliation	After Reconciliation
8	9.6 (5.8, 13.3)	7.8 (4.4, 11.2)

Part 3. Reasons for Difference between Pay Rate Responses

Reason	Count	Percent
Total	52	100.0
Wasn't sure of exact amount	18	34.6
Salary changed since responding	8	15.4
Wasn't sure what to report	8	15.4
Reported in different units	4	7.7
Changed jobs since responding	3	5.8
Thought question asked for net earnings	2	3.8
Missed skip pattern/question	2	3.8
Other	1	1.9
Don't know	1	1.9
Misunderstood question	1	1.9
Refused to answer in one interview	1	1.9
Forgot/remembered info	1	1.9
Manual/general error	1	1.9
FR error	1	1.9

Question 9. Have you earned any new degrees in the past 12 months?

This question has two reconciliation questions. Reconciliation question 1 applied when the respondent answered "no" in the original interview and "yes" in the reinterview. Reconciliation question 2 applied when the reverse situation existed. We combined the reasons from the two questions in Appendix F.

Table 41. Question 9 - 657 Responses

No. of Categories	Before Reconciliation GDR(%)	After Reconciliation GDR(%)
2	0.8 (0.2, 1.3)	no responses change with reconciliation

Question 10. When did you earn this degree?

This question requires two responses: month and year. The disagreement rate for the month response includes only those cases where the years agree.

Table 42. Question 10 (Month Response) - 22 Responses

No. of Categories	Before Reconciliation Disagreement Rate (%)	After Reconciliation Disagreement Rate(%)
Month (2)	4.5 (-2.8, 11.9)	no responses change with reconciliation

Table 43. Question 10 (Year Response) - 23 Responses

No. of Categories	Before Reconciliation Disagreement Rate (%)	After Reconciliation Disagreement Rate(%)
Year (2)	4.3 (-2.6, 11.3)	no responses change with reconciliation

Question 11. What type of degree is it?

Table 44. Question 11 - 22 Responses

No. of Categories	Before Reconciliation GDR(%)	After Reconciliation GDR(%)
6	0.0 (0.0, 0.0)	no responses change with reconciliation

Question 12. What is the major field of study for your NEW degree?

To answer this question, the respondent chose from a list of 79 fields of study, which were divided into 9 subject areas. For our analysis, we collapsed the 79 fields into the 9 subject areas. Attachment 2 lists the 79 fields by subject area.

Only eight respondents answered this question. All of the eight original and reinterview responses agreed by subject area. However, the low response for this question compared to the 22 responses for the other related questions (Questions 10, 11 and 13) indicates that while respondents consistently answered this question, they were also less likely to answer it than the other questions. Two explanations for this exist. One is that they were reluctant to answer this question because it required considerably more work than the others. Here, respondents must manipulate a list of 74 specified items. The other questions (e.g., Have you earned any new degrees in the past 12 months?) are easy in comparison, requiring them at the very most to match their answers to only a handful of specified choices. The other explanation is that respondents tried to answer this question, but did not succeed in matching their response to one of the 74 provided and eventually gave up.

Table 45. Question 12 - 8 Responses

No. of Categories	Before Reconciliation GDR(%)	After Reconciliation GDR(%)
9	0.0 (0.0, 0.0)	no responses change with reconciliation

Question 13. For what purpose did you earn this degree?

Table 46. Question 13 - 22 Responses

No. of Categories	Before Reconciliation GDR(%)	After Reconciliation GDR(%)
6	9.1 (-1.0, 19.2)	no responses change with reconciliation

Question 14. Are you currently enrolled in a degree program?

Table 47. Question 14 - 651 Responses

No. of Categories	Before Reconciliation GDR(%)	After Reconciliation GDR(%)
3	2.0 (1.1, 2.9)	no responses change with reconciliation

Question 15. What type of degree are you pursuing?

Table 48. Question 15 - 89 Responses

No. of Categories	Before Reconciliation GDR(%)	After Reconciliation GDR(%)
6	3.4 (0.2, 6.5)	no responses change with reconciliation

Question 16. What is the major field of study for the degree you are pursuing?

As in Question 12, the respondent chose from the same 79 fields of study. Again, we grouped these fields into the same nine subject areas for analysis.

The same response pattern is evident for this question as for question 12; that is, response to this question dropped off in comparison to related questions (Questions 15 and 17). As with question 12, respondents were either less motivated or less capable of answering this question than the related questions.

Table 49. Question 16 - 51 Responses

No. of Categories	Before Reconciliation GDR(%)	After Reconciliation GDR(%)
9	7.8 (1.7, 14.0)	5.9 (0.5, 11.3)

Question 17. For what purpose are you pursuing this degree?

Part 3 of Table 50 shows that almost half (5) of the respondents who gave a reason for inconsistent answers said that both categories equally described their situation. Therefore, it may be unrealistic to expect respondents to reliably choose one of the answer categories over the others. Another half (5) said they had problems with the categories, indicating that the answer categories for this question may need to be defined better.

Table 50. Question 17 - 89 Responses

Part 1. Gross Difference Rates and Confidence Limits (%)

No. of Categories	Before Reconciliation	After Reconciliation
6	12.4 (6.6, 18.1)	no responses changed with reconciliation

Part 3. Reasons for Difference between Responses

Reason	Count	Percent
Total	11	100.0
Both categories equally describe situation	5	45.5
Category problems	5	45.5
Don't know	1	9.1

Question 21a. Do you have a "lifetime" teaching certificate?

This question has two reconciliation questions for determining the reasons for the difference between the reinterview and original responses. Reconciliation question 1 applied when the respondent answered "no" in the original interview and "yes" in the reinterview. Reconciliation question 2 applied

when the reverse situation existed. We combined the reasons from the two questions in Table 51 and again in Appendix F.

Part 3 of Table 51 shows that a quarter (5) of the respondents who gave a reason for inconsistent answers said they weren't sure whether their certificate was a "lifetime" certificate.

Table 51. Question 21a - 658 Responses

Part 1. Gross Difference Rates and Confidence Limits (%)		
No. of Categories	Before Reconciliation	After Reconciliation
3	3.3 (2.2, 4.5)	no responses changed with reconciliation

Part 3. Reasons for Difference between Responses		
Reason	Count	Percent
Total	20	100.0
Don't know	6	30.0
Unsure whether certification was lifetime	5	25.0
Received certificate since responding	2	10.0
Thought certificate was lifetime	2	10.0
Other	2	10.0
Wasn't sure which state(s) question referred to	1	5.0
Forgot/remembered info	1	5.0
Misunderstood question	1	5.0

Question 21b. Has there been a change in your teacher certification status since last year?

For this question, respondents marked all answer categories that applied. However, only four cases have multiple responses. For our analysis, we deleted these four cases and considered the question as a single-response question with five possible answer categories. Three explanations may exist for the limited number of multiple responses.

- One is that only four respondents really had a reason to mark more than one category.

- A second explanation is that it does not make sense to respondents to mark more than one category.

- A final explanation is that respondents overlooked the "Mark (X) all that apply." instruction. The TFS uses a question-on-the-left-answer-on-the-right format. Jenkins et al. (1992) conclude that respondents often did not read instructions below the question. This is because respondents generally began to search for the answer once they read the question. As a result, their thoughts and consequently, their eyes were drawn away from the left-hand side of the page, where the instruction lay, to the right-hand side, where they knew the answer categories to be.

Part 3 of Table 52 shows that approximately half (8) of the respondents who gave a reason for inconsistent answers reported misunderstanding either the question or answer categories.

Table 52. Question 21b - 388 Responses

Part 1. Gross Difference Rates and Confidence Limits (%)		
No. of Categories	Before Reconciliation	After Reconciliation
5	4.4 (2.7, 6.1)	3.6 (2.1, 5.2)

Part 3. Reasons for Difference between Responses		
Reason	Count	Percent
Total	15	100.0
Misunderstood question	5	33.3
Change since responding	4	26.7
Category problems	3	20.0
Misunderstood reference period	1	6.7
Didn't know what to include/exclude	1	6.7
Other	1	6.7

Question 28. Which category represents the total combined income (include your own income) of ALL FAMILY MEMBERS age 14 and older in your household during 1991? Include money from jobs, net business or farm income, pensions, payments, and any other income received by family members in your household.

Results here are very similar to those for Question 31 on the Current Teacher Follow-up Survey (TFS-3). Again, the before reconciliation GDR (22.9%) in part 1 of Table 53 is the largest of any closed-ended question on the TFS-2.

Table 53. Question 28 - 643 Responses

Part 1. Gross Difference Rates and Confidence Limits (%)

No. of Categories	Before Reconciliation	After Reconciliation
13	22.9 (20.1, 25.6)	19.3 (16.7, 21.8)

Part 2. Significant NDRs - After Reconciliation

Response Category	NDR%
$20,000 - $24,000	-1.2 (-2.2, -0.3)
$25,000 - $29,999	2.0 (0.8, 3.3)
$75,000 - $99,999	-1.1 (-2.1, -0.1)

Part 3. Reasons for Difference between Responses

Reason	Count	Percent
Total	136	100.0
Wasn't sure of exact amount	67	49.3
Wasn't sure what to include/exclude	25	18.4
Don't know	13	9.6
Misunderstood reference period	11	8.1
Refused to answer question in one interview	5	3.7
Manual/general error	4	2.9
Misunderstood question	3	2.2
Wasn't sure whether to include adult children	2	1.5
Other	2	1.5
Forgot/remembered info	1	0.7
Gave "usual" case answer	1	0.7
FR error	1	0.7
Category problems	1	0.7

Question 29. What is your current marital status?

Table 54. Question 29 - 637 Responses

No. of Categories	Before Reconciliation GDR(%)	After Reconciliation GDR(%)
4	0.8 (0.2, 1.4)	no responses change with reconciliation

Question 30. How many children do you have who are dependent on you (and your spouse) for more than half of their financial support?

This question requires respondents to write-in a number or to check the "none" box. For analysis, we constructed seven distinct categories.

- No children
- 1 child
- 2 children
- 3 children
- 4 children
- 5 children
- More than five children.

For this question, a large number of the reasons for response differences are legitimate. Part 3 of Table 55 shows that approximately 41 percent (12) of the respondents who gave a reason for a difference said the number of their dependent children changed since responding.

Table 55. Question 30 - 659 Responses

Part 1. Gross Difference Rates and Confidence Limits (%)		
No. of Categories	Before Reconciliation	After Reconciliation
7	4.7 (3.3, 6.1)	4.1 (2.8, 5.4)

Part 3. Reasons for Difference between Responses		
Reason	Count	Percent
Total	29	100.0
Number changed since responding	12	41.4
Don't know	5	17.2
Wasn't sure whether support was more than half	4	13.8
Other	3	10.3
Unsure what "children" meant	3	10.3
Misunderstood question	2	6.9

Question 31. What was the age of your youngest child on his/her last birthday?

This question requires respondents to write-in a number. For analysis, we grouped these entries into ten distinct categories.

- None
- 1 to 5 years
- 6 to 10 years
- 11 to 15 years
- 16 to 20 years
- 21 to 25 years
- 26 to 30 years
- 31 to 35 years
- 36 to 40 years
- Other

Similar to question 30, most of the reasons for response differences are legitimate. Part 3 of Table 56 shows that 71 percent (22) of the respondents who gave a reason for a difference said their child had a birthday since responding.

Table 56. Question 31 - 291 Responses

Part 1. Gross Difference Rates and Confidence Limits (%)		
No. of Categories	Before Reconciliation	After Reconciliation
10	4.8 (2.7, 6.9)	no responses changed with reconciliation

Part 3. Reasons for Difference between Responses		
Reason	Count	Percent
Total	31	100.0
Child had birthday since responding	22	71.0
Misunderstood question	3	9.7
Manual/general error	3	9.7
Missed skip pattern/question	1	3.2
FR error	1	3.2
Other	1	3.2

Question 32a. Do you have persons other than your spouse and children who are dependent on you for more than half of their financial support?

Part 3 of Table 57 shows that nearly half (4) of the respondents who gave a reason for inconsistent answers said they had different ideas of what it means to be dependent between the original interview and the reinterview.

Table 57. Question 32a - 657 Responses

Part 1. Gross Difference Rates and Confidence Limits (%)		
No. of Categories	Before Reconciliation	After Reconciliation
3	1.7 (0.9, 2.5)	1.5 (0.7, 2.3)

Part 3. Reasons for Difference between Responses		
Reason	Count	Percent
Total	9	100.0
Had different ideas what dependent meant	4	44.4
Unsure what "other persons" meant	2	22.2
Situation changed since responding	1	11.1
Other	1	11.1
Wasn't sure whether support was more than half	1	11.1

Question 32b. How many persons other than your spouse or children are dependent on you for more than half of their financial support?

Similar to Question 30, this question requires respondents to write-in a number. For analysis, we made four distinct categories.

- None - that is, no persons
- 1 person
- 2 persons
- Other - that is, more than two persons.

Table 58. Question 32b - 18 Responses

Part 1. Gross Difference Rates and Confidence Limits (%)		
No. of Categories	Before Reconciliation	After Reconciliation
4	5.6 (-3.3, 14.4)	5.3 (-3.2, 13.7)

IV. Detailed Recommendations

A. **Proposed Questionnaire Revisions for Current Teacher Follow-up Survey (TFS-3)**

Question 1. MAIN activity and OTHER main activity?

First, list the activities before the question series. This way all of the questions can refer back to one list. Second, break the original question into the following logical sequence of five simpler, more natural sounding questions. This sequence avoids the use of the awkwardly phrased "Other Main Activity." It eliminates respondents early on whose time is equally divided between two activities, thereby eliminating the need to maintain an "equal" characterization of the activities in the remaining questions.

LIST OF ACTIVITIES

1. **Teaching in an elementary or secondary school**
2. **Working in an elementary or secondary school with an assignment OTHER THAN teaching**
3. **Working in an occupation outside of elementary or secondary education**
4. **Attending a college or university**
5. **Caring for family members**
6. **Retired**
7. **Other - Specify**

1a. **Is your time equally divided between two of the above listed activities?**

___ **yes--skip to 1b**
___ **no--skip to 2**

1b. **If so, what are their numbers from the list above?**

____ **and** ____**--skip to 4**

2. **What number from the list above best describes the activity you spend most of your time on during the work week; that is, what is your main activity?**

___ **main activity**

3a. Do you spend time on any other activity from the list above?

___ yes–skip to 3b
___ no–skip to 4

3b. If so, what number from the list above best describes this other activity?

___ other activity

Question 3b. Teaching Assignment?

First, rearrange the answer categories. The itinerant and long-term substitute teachers are more likely to consider themselves regular full- or part-time teachers than vice versa.

Secondly, reword the "itinerant teacher" answer category. State the definition of "itinerant teacher" first, then the technical term in parentheses, instead of vice versa.

Finally, provide a more comprehensive list of familiar names for itinerant teachers, such as traveling, co-op, or satellite teachers.

Our suggested order and wording are:

___ **You provide instruction at more than one school (i.e., you are an itinerant, traveling, co-op, or satellite teacher).**
___ **You fill the role of a regular teacher on a long-term basis, but you are still considered a substitute (i.e., you are a long-term substitute teacher).**
___ **You are a regular full-time or part-time teacher.**

Question 4. Other School Assignment?

Break this question into its constituent parts, thereby eliminating the need for the "not applicable" answer category. Also, change the phrase "employee with less than a full-time teaching assignment" to "part-time teacher," which is easier to understand. Our suggested wording is:

4a. Are you a full-time school or district employee who is a part-time teacher?

___ yes–skip to 4b
___ no–skip to 5

4b. Which of these best describes your non-teaching assignment at this school?

Questions 5a-7c. MAIN and OTHER Teaching Assignments Fields?

Rearrange the "teaching assignment" questions so that respondents are first asked a series of questions about their MAIN teaching assignment field, followed by a series of questions about their OTHER teaching assignment field. This will streamline the process for respondents who teach only one subject, allowing them to skip over the entire series of questions relating to their OTHER teaching assignment field. Jenkins made this recommendation once before (1992a, p.24), and the results of the TFS Reinterview support it.

Presently, the questions alternate between asking teachers about their MAIN and OTHER teaching assignment fields. Respondents who teach two subjects must pay particular attention to which subjects they are being asked about. Respondents who teach only one subject are continually and alternately asked questions that don't pertain to them. Our rearrangement is:

Question 5a. MAIN teaching assignment?

Question 6a. Teaching certificate in MAIN field?

Question 6b. Type of certificate?

Question 6c. Certificate granted within last 12 months?

Question 5b. Teach classes in OTHER assignment fields?

Question 7a. Teaching certificate in OTHER field?

Question 7b. Type of certificate?

Question 7c. Certificate granted within last 12 months?

Respondents who respond "no" to 5b will skip over 7a through 7c. Consequently, 7a will no longer need the "not applicable" answer category.

Question 6b. Type of certificate?

Reverse the first two answer categories. Respondents are more likely to have "regular or standard state certificates" and confuse these with "advanced professional certificates" than vice versa. Also, add an "other" and a "don't know" answer category.

Question 8. Grade Levels of Students?

If the intent of this question is to learn what the grade levels are of all the students that the teacher teaches, then one possibility for rewording this question is:

> **In what grade levels are the students that you teach at THIS school?**

This wording eliminates the confusing word "class," the definition of which gives respondents problems. Does a class need to meet regularly to be considered a class? Does it need to be a certain size before it qualifies as a class? Respondents are not certain of the answers to these questions.

If, however, the intent of this question is to learn what the grade levels are of students in regularly scheduled classes of certain sizes, then this needs to be made clear to respondents. For example:

> **In what grade levels are the students in your regularly scheduled classes (those with X or more students) at THIS school?**

Questions 29b(1-3) and 31. Income?

The problem posed by the income questions--the fact that respondents who gave a reason for inconsistent answers overwhelmingly said they were providing estimates--does not appear simple to solve. Initially we thought that asking respondents either 1) to obtain records to accurately answer the income questions or 2) to stop and think about them more carefully might be possible solutions to this problem. However, this now appears to have been a naive perspective. A recent experimental treatment in which respondents were asked to use their records to report sources of income did not show substantial improvements in the quality of data obtained, while it lead to lower response rates and higher field costs (Marquis, 1993).

The results of this research suggest that simply asking respondents to use their records will probably not work. We need to have a better understanding of respondents' use of records before we will be able to properly guide this

process. Jenkins (1992b) concludes that respondents' use of records is one of the most complex areas of questionnaire research to study, since it requires in-depth knowledge about respondents' records as well as how they use those records. Very little is known about that process to date. Certainly this is an area in need of further research.

Given that asking respondents to use their records may have a detrimental effect on the data in other ways (i.e., increase non-response), the question becomes just how much measurement error in the data can the sponsor tolerate. This is another area that needs to be explored. Does the amount of response variance in the data affect the estimates or inferences drawn? If so, will the benefit of decreased measurement error outweigh the cost of increased nonresponse error? Further research is needed to address these difficult issues.

Question 30. Income-in-Kind?

Reword this question so that respondents understand they are supposed to include partial sources of income-in-kind.

> **Including partial sources, do you receive any income-in-kind in addition to or in lieu of your school salary?**

B. Proposed Questionnaire Revisions for Former Teachers (TFS-2)

Question 1. Main Occupational Status

Further research is needed to reduce discrepant answers to this question. We need to learn why respondents are systematically marking the "other" category in the first interview.

Question 12. Major Field of Study for New Degree

Research is needed to determine if respondents are less motivated or less capable of answering this question than the related questions.

Question 21a. Lifetime Teaching Certificate

Provide a "Don't know" answer category, since respondents do not know if their teaching certificate is "lifetime" or not.

Question 21b. Change in Teacher Certification Status

Vertically align the question and response categories (for this as well as all of the questions on the questionnaire) to help respondents perceive the instructions that follow the question.

Questions 5 and 28. Income

Our recommendation is the same here as for Questions 29b(1-3) and 31 on the TFS-3.

Question 28a. Other Dependent Persons

Further research is needed to reduce discrepant answers to this question.

REFERENCES

Bates, N. and DeMaio, T.J. 1990. "Report on Cognitive Research on the Public and Private School Questionnaire for the Schools and Staffing Survey (SASS-3A and Sass-3B). " Internal Census Bureau memorandum. July 11, 1990.

Blair, J. and Sudman, S. 1993. "Respondent Perceptions of Reinterviews." Paper Prepared for Presentation at the Ninth Annual Research Conference. March 1993.

DeMaio, T. J. 1990. "Cognitive Interviews with Private School Teachers." Internal Census Bureau memorandum. April 26, 1990.

Dillman, D.A. and Tarnai, J. 1990. "Mode Effects of Cognitively-Designed Recall Questions: A Comparison of Answers to Telephone and Mail Surveys." Paper Prepared for Presentation at the International Conference on Measurement Error on Surveys. Tucson, Arizona. November, 1990.

Jenkins, C., Ciochetto, S., and Davis, W. 1992. "Results of Cognitive Research on the Public School 1991-92 Field Test Questionnaire for the Schools and Staffing Survey (SASS-3A)." Internal Census Bureau Memorandum. June 15, 1992.

Jenkins, C.R. 1992a. "A Review of the Post-edit Item Response Rates, Pre-edit Reject Rates, and Edit Change Tallies from the 1991 Schools and Staffing Surveys." Internal Census Bureau Memorandum. March 23, 1992.

Jenkins, C.R. 1992b. "Questionnaire Research in the Schools and Staffing Survey: A Cognitive Approach." *Proceedings on the Section on Survey Methods Research*, American Statistical Association, August 1992.

Jenkins, C.R and Dillman, D.A. 1992. "Combining Cognitive and Motivational Research Perspectives for the Design of Respondent Friendly Self-Administered Questionnaires." Paper Prepared for Presentation at the Annual Meetings of the American Association for Public Opinion Research. May, 1993.

Faupel, E., Bobbit, S. and Rohr, C. 1992. "1988-89 Teacher Followup Survey Data File User's Manual." National Center for Education Statistics. U.S. Department of Education. Office of Educational Research and Improvement. June 1992.

Forsyth, B.H. and Lessler, J.T. 1991. "Cognitive Laboratory Methods: A Taxonomy" in P.B. Biemer, R.M. Groves, L.E. Lyberg, N.A. Mathiowetz, and S. Sudman, (eds), *Measurement Errors in Surveys*. New York: John Wiley and Sons, pp.393-418.

Fowler, F.J. and Mangione, T.W. 1990. *Standardized Survey Interviewing*. Newbury Park: Sage Publications.

Marquis, K. 1993. Personal Communication. Preliminary Results from a Cognitive Approach to Redesigning Measurement in the Survey of Income and Program Participation. U.S. Bureau of the Census. Washington, D.C.

Parmer, R.J., Shen, P. and Tan, A.I. 1992. "Mail Versus Telephone Response in the 1991 Schools and Staffing Surveys." *Proceedings of the Section on Survey Methods Research.* American Statistical Association. August, 1992.

Tarnai, J. and Dillman, D.A. 1989. "Questionnaire Context as a Source of Response Differences in Mail vs. Telephone Surveys." Paper Prepared for Presentation at the First Nags Head Conference on Cognition and Survey Research. Nags Head, North Carolina. September, 1989.

Waite, P.J. 1990. "1989 Teacher Followup Survey (TFS) Reinterview Response Variance Report." Internal Census Bureau memorandum. August 16, 1990

Attachment A
December 27, 1993

Teaching Assignment Fields by Category
Questions 5a and 5b on the TFS-3

General
Prekindergarten
Kindergarten
General elementary

Special areas
American Indian studies
Art
Basic skills and remedial education
Bilingual education
Computer science
Dance
Drama/Theater
English/Language arts
English as a second language
Gifted
Home economics
Journalism
Mathematics
Military science
Music
Philosophy
Physical education, health
Reading
Religion
Social studies/Social science

Foreign language
French
German
Latin
Russian
Spanish
Other foreign language

Science
Biology/Life science
Chemistry
Geology/Earth science/Space science
Physics
General and all other science

Vocational-technical education
Accounting
Agriculture
Business, marketing
Health occupations
Industrial arts
Trade and industry
Technical
Other vocational education

Special education
Special education, general
Emotionally disturbed
Mentally retarded
Speech/Language impaired
Deaf and hard-of-hearing
Visually handicapped
Orthopedically impaired
Mildly handicapped
Severely handicapped
Specific learning disabilities
Other special education

All others

Attachment B-1
December 27, 1993

Major Fields of Study by Category
Questions 12 and 16 on the TFS-2

General Education

Pre-elementary/early childhood
elementary education
Secondary education

Subject Area Education

Agricultural education
Art education
Bilingual education
Business, commerce, and distributive education
Crosscultural education
English education
English as a second language
Foreign languages education
Home economics education
Indian education
Industrial arts, vocational and technical, trade and industry education
Mathematics education
Music education
Physical education/Health
Reading education
Religious education
Science education
Social studies/Social sciences

Special Education

Special education, general
Emotionally disturbed
Mentally retarded
Speech/Language impaired
Deaf and hard-of-hearing
Visually handicapped Orthopedically impaired
Mildly handicapped
Severely handicapped
Specific learning disabilities
Other special education

Other Education

Curriculum and instruction
Educational administration
Educational psychology
Counseling and guidance
Other education

General

Agriculture/natural resources
American Indian studies
Other area and ethnic studies
Architecture and environmental design
Art, fine and applies
Business and management
Communication and journalism
Computer/information sciences
Drama, theater
Engineering
English
General studies
Health professions/occupations
Home economics
Humanities
Law
Library science
Mathematics
Military science
Multi/interdisciplinary studies
Music
Philosophy
Psychology
Public affairs and services
Religion, theology

Foreign Languages

French
German
Latin
Russian
Spanish
Other foreign languages

Natural Sciences

Biology/Life sciences
Chemistry
Geology/Earth science
Physics
Other natural sciences

Social Sciences

Economics
History
Political science/government
Sociology
Other social sciences

Other

TFS-3 for Current Teachers
Before Reconciliation L-fold Indexes

Question		L-fold	Confidence Limits
Cover.	Still Teaching?	**	**
1.	MAIN activity and OTHER main activity? Main activity Other activity	 19.6 9.7	 (11.4, 33.8) (6.2, 14.9)
2.	Position as a school EMPLOYEE?	7.9	(4.3, 14.6)
3a.	Time as a TEACHER?	7.8	(4.5, 13.4)
3b.	Teaching assignment?	22.2	(13.9, 35.6)
4.	Other school assignment?	16.8	(10.9, 26.0)
5a.	MAIN teaching assignment at this school?	2.3	(1.4, 3.9)
5b.	Teach classes in OTHER fields at this school? Yes/no response Field code	 12.3 5.9	 (8.6, 17.5) (2.7, 13.2)
6a.	Teaching certificate in this State in this MAIN teaching assignment field?	6.4	(3.7, 10.9)
6b	Type of certificate?	17.4	(13.1, 23.1)
6c.	Certificate granted within the last 12 months?	16.0	(10.8, 23.8)
7a.	Teaching certificate in this state in OTHER teaching assignment field?	25.6	(21.6, 30.4)
7b.	Type of certificate?	**	**
7c.	Certificate granted within the last 12 months?	**	**

A double asterisk (**) indicates a suppressed L-fold. This means there are too few cases to accurately compute the statistic.

Question		L-fold	Confidence Limits
8.	Grade levels of students in your classes at THIS school?		
	Ungraded	**	**
	Prekindergarten	**	**
	Kindergarten	7.8	(4.9, 12.5)
	1st	8.1	(5.4, 12.2)
	2nd	10.1	(6.9, 14.7)
	3rd	8.2	(5.4, 12.3)
	4th	9.1	(6.2, 13.4)
	5th	9.6	(6.7, 13.9)
	6th	5.8	(3.6, 9.3)
	7th	7.7	(5.2, 11.4)
	8th	7.9	(5.3, 11.7)
	9th	6.6	(4.4, 9.9)
	10th	5.4	(3.5, 8.5)
	11th	4.6	(2.8, 7.5)
	12th	5.0	(3.1, 8.0)
	Postsecondary	**	**
9.	Community in which this school is located?	9.9	(7.9, 12.4)
10.	Teaching in the SAME school?	3.9	(2.3, 6.5)
11.	Teaching in same state? Yes/No response	0.0	(0.0, 5.0)
12.	Move from last year's school to this year's school?	3.1	(1.4, 6.8)
13.	Religious affiliation?	**	**
29b(2).	Additional compensation for extra curricular/additional activities from your school? Yes/No response	10.8	(7.9, 14.8)
29b(3).	Additional compensation from outside school system? Yes/No response	17.9	(13.6, 23.6)
29b(3a).	Job outside the school system?	9.2	(4.7, 17.8)

A double asterisk (**) indicates a suppressed NDR. This means there are too few cases to accurately compute the statistic.

Question	L-fold	Confidence Limits
30. Income-in-kind?	15.7	(10.6, 23.4)
31. Total combined income of ALL FAMILY MEMBERS age 14 and older in your household during 1991?	18.2	(15.7, 21.2)

A double asterisk (**) indicates a suppressed NDR. This means there are too few cases to accurately compute the statistic.

TFS-2 for Former Teachers
Before Reconciliation L-fold Indexes

Question		L-fold	Confidence Limits
Cover.	Still Teaching?	**	**
1.	MAIN OCCUPATIONAL status?	8.6	(6.8, 11.0)
2.	MAIN school assignment?	4.4	(1.5, 13.3)
4.	Position as an EMPLOYEE?	5.5	(2.2, 13.8)
5.	Altogether, how much do you usually earn at this job before deduction?	14.7	(9.8, 22.1)
9.	New Degree?	10.6	(5.2, 21.8)
11.	What type of degree is it?	**	**
12.	Major field of study for NEW DEGREE?	**	**
13.	For what purpose did you earn this degree?	**	**
14.	Currently enrolled in a degree program?	8.0	(5.1, 12.5)
15.	What type of degree are you pursuing?	6.2	(2.5, 15.5)
16.	Major field of study for degree you are pursuing?	**	**
17.	For what purpose are you pursuing this degree?	15.7	(10.4, 25.0)
21a.	"Lifetime" teaching certificate?	6.9	(4.9, 9.8)
21b.	Change in teacher certification since last year?	18.8	(12.7, 28.0)
28.	Total combined income?	25.4	(22.6, 28.6)
29.	Current marital status?	2.2	(1.1, 4.5)
30.	Dependent children for more than half of their financial support?	7.5	(5.6, 10.0)

A double asterisk (**) indicates a suppressed L-fold. This means there are too few cases to accurately compute the statistic.

Question	L-fold	Confidence Limits
31. Age of youngest child?	5.9	(3.8, 9.1)
32a. Other dependent persons for more than half of their financial support?	23.3	(14.2, 38.0)
32b. How many persons?	**	**

Double asterisk (**) indicates a suppressed L-fold. This means there are too few cases to accurately compute the statistic.

TFS-3 for Current Teachers
After Reconciliation NDRs by Response Categories

Question/ Response Category	NDR%	Confidence Limits
Cover. Still Teaching?		
Yes	**	
No	**	
1. MAIN activity and OTHER main activity? Main activity		
Teaching in school	-0.8*	(-1.6, -0.1)
Working in school other than teaching Working in occupation outside education	**	
Attending college/university	**	
Caring for family	**	
Retired	**	
Other	**	
2. Position as a school EMPLOYEE?		
Full-time employee	0.2	(-0.5, 0.8)
> = 3/4 time, full-time	**	
> = 1/2 time, < 3/4 time	-0.2	(-0.7, 0.3)
> = 1/4 time, < 1/2 time	**	
< Less than 1/4 time	**	
3a. Time as a TEACHER?		
Full-time teacher	0.3	(-0.4, 1.0)
> = 3/4 time, full-time	**	
> = 1/2 time, < 3/4 time	-0.3	(-0.9, 0.3)
> = 1/4 time, < 1/2 time	**	
< Less than 1/4 time	**	
3b. Teaching assignment?		
Regular full/part-time teacher	1.6*	(0.7, 2.6)
Itinerant teacher	-1.5*	(-2.4, -0.6)
Long-term substitute	**	

A single asterisk (*) indicates a NDR significantly different from zero at the 90% confidence level.

A double asterisk (**) indicates a suppressed NDR, or too few cases to accurately compute.

Question/ Response Category	NDR%	Confidence Limits
4. Other school assignment?		
Administrator	**	
Counselor	**	
Librarian/Media specialist	**	
Coach	**	
Other professional staff	**	
Support staff	**	
Other	**	
Not applicable	0.0	(-1.1, 1.1)
5a. MAIN teaching assignment at this school?		
General	0.2	(-0.5, 0.8)
Special areas	-0.2	(-0.9, 0.6)
Foreign language	0.0	(-0.4, 0.4)
Science	0.2	(-0.2, 0.7)
Vocational/technical education	**	
Special education	0.2	(-0.2, 0.7)
All others	**	
5b. Teach classes in OTHER fields at this school? Yes/No response		
Yes	-0.2	(-1.4, 1.1)
No	0.2	(-1.1, 1.4)
5b. Teach classes in OTHER fields at this school? Field code		
General	**	
Special areas	-3.4*	(-7.6, -0.4)
Foreign language	**	
Science	**	
Vocational/technical education	**	
Special education	**	
All others	**	

A single asterisk (*) indicates a NDR significantly different from zero at the 90% confidence level.

A double asterisk (**) indicates a suppressed NDR, or too few cases to accurately compute.

Question/ Response Category	NDR%	Confidence Limits
6a. Teaching certificate in this State in this MAIN teaching assignment field?		
Yes	0.8	(-0.0, 1.6)
No	-0.8	(-1.6, 0.0)
6b. Type of certificate?		
Advanced professional certificate	1.5*	(0.2, 2.8)
Regular or standard state certification	-1.1	(-2.8, 0.5)
Probationary certification	**	
Temporary, provisional or emergency certification	-0.8	(-1.7, 0.2)
6c. Certificate granted within the last 12 months?		
Yes	1.1	(-0.4, 2.6)
No	-1.1	(-2.6, 0.4)
7a. Teaching certificate in this state in OTHER teaching assignment field?		
Yes	1.2	(-0.2, 2.6)
No	5.4*	(3.2, 7.6)
Not applicable	-6.6*	(-8.8, -4.3)
7b. Type of certificate?		
Advanced professional certificate	**	
Regular or standard state certification	**	
Probationary certification	**	
Temporary, provisional or emergency certification	**	

A single asterisk (*) indicates a NDR significantly different from zero at the 90% confidence level.

A double asterisk (**) indicates a suppressed NDR, or too few cases to accurately compute.

Question/ Response Category	NDR%	Confidence Limits
7c. Certificate granted within the last 12 months?		
Yes	**	
No	**	
8. Grade levels of students in your classes at THIS school?		
Ungraded	**	
Prekindergarten	**	
Kindergarten - marked	0.0	(-0.9, 0.9)
not marked	0.0	(-0.9, 0.9)
1st - marked	0.8	(-0.2, 1.8)
not marked	-0.8	(-1.8, 0.2)
2nd - marked	0.2	(-1.0, 1.3)
not marked	-0.2	(-1.3, 1.0)
3rd - marked	1.0	(-0.1, 2.0)
not marked	-1.0	(-2.0, 0.1)
4th - marked	1.3*	(0.1, 2.4)
not marked	-1.3*	(-2.4, -0.1)
5th - marked	1.6*	(0.5, 2.7)
not marked	-1.6*	(-2.7, -0.5)
6th - marked	1.0*	(0.1, 1.8)
not marked	-1.0*	(-1.8, -0.1)
7th - marked	1.4*	(0.4, 2.5)
not marked	-1.4*	(-2.5, -0.4)
8th - marked	1.7*	(0.7, 2.8)
not marked	-1.7*	(-2.8, -0.7)
9th - marked	0.6	(-0.4, 1.6)
not marked	-0.6	(-1.6, 0.4)
10th - marked	0.2	(-0.8, 1.1)
not marked	-0.2	(-1.1, 0.8)
11th - marked	0.2	(-0.7, 1.1)
not marked	-0.2	(-1.1, 0.7)
12th - marked	0.3	(-0.6, 1.2)
not marked	-0.3	(-1.2, 0.6)
Postsecondary	**	

A single asterisk (*) indicates a NDR significantly different from zero at the 90% confidence level.

A double asterisk (**) indicates a suppressed NDR, or too few cases to accurately compute.

Question/ Response Category	NDR%	Confidence Limits
9. Community in which this school is located?		
Rural or farming community	0.0	(-1.0, 1.0)
Small city or town	-0.5	(-1.7, 0.7)
Medium-sized city	0.8	(-0.2, 1.9)
Suburb of medium-sized city	-0.2	(-0.9, 0.6)
Large city	-0.3	(-1.3, 0.6)
Suburb of large city	0.0	(-1.0, 1.0)
Very large city	0.2	(-0.5, 0.8)
Suburb of very large city	0.0	(-0.7, 0.7)
Military base or station	**	
Indian reservation	**	
Other	**	
10. Teaching in the SAME school?		
Yes	-0.2	(-1.0, 0.7)
No	0.2	(-0.7, 1.0)
11. Teaching in same state? Yes/No response		
Yes	0.0	(-1.5, 1.5)
No	0.0	(-1.5, 1.5)
12. Move from last year's school to this year's school?		
Moved from public to another public school in same district	1.1	(-0.4, 3.4)
Moved from public school district to another public school district	-1.7	(-4.2, 0.1)
Moved from private to public school	1.1	(-0.4, 3.4)
Moved from private to another private school	-0.6	(-2.5, 0.6)
Moved from public to private school	**	

A single asterisk (*) indicates a NDR significantly different from zero at the 90% confidence level.

A double asterisk (**) indicates a suppressed NDR, or too few cases to accurately compute.

Question/ Response Category	NDR%	Confidence Limits
13. Religious affiliation?		
Religious - Roman Catholic	**	
Religious - Non-Roman Catholic	**	
Non-Religious	**	
29b(2). Additional compensation for extra curricular/additional activities from your school? Yes/No response		
Yes	-0.2	(-1.5, 1.1)
No	0.0	(-1.3, 1.3)
Don't know/refused	**	
29b(3). Additional compensation from outside school system? Yes/No response		
Yes	-2.7*	(-4.2, -1.1)
No	2.5*	(0.9, 4.1)
Don't know/refused	**	
29b(3a). Job outside the school system?		
Teaching or tutoring	-0.9	(-3.7, 1.9)
Nonteaching, but education related	**	
Not related to education	0.0	(-3.2, 3.2)
Don't know/refused	**	

A single asterisk (*) indicates a NDR significantly different from zero at the 90% confidence level.

A double asterisk (**) indicates a suppressed NDR, or too few cases to accurately compute.

Question/ Response Category	NDR%	Confidence Limits
30. Income-in-kind?		
Housing or housing expenses	**	
Meals	**	
Tuition for your children	**	
Child care	**	
College tuition for yourself	**	
Car/transportation expenses	**	
None of the above	-0.2	(-1.3, 0.9)
Don't know/refused	**	
31. Total combined income of ALL FAMILY MEMBERS age 14 and older in your household during 1991?		
Less than $10,000	**	
$ 10,000-$14,999	**	
$ 15,000-$19,999	0.2	(-0.2, 0.7)
$ 20,000-$24,999	-0.2	(-0.8, 0.5)
$ 25,000-$29,999	-0.7	(-1.6, 0.2)
$ 30,000-$34,999	-0.2	(-1.5, 1.2)
$ 35,000-$39,999	0.8	(-0.6, 2.2)
$ 40,000-$49,999	1.0	(-0.5, 2.5)
$ 50,000-$59,999	-1.2	(-2.4, 0.0)
$ 60,000-$74,999	0.7	(-0.5, 1.8)
$ 75,000-$99,999	0.0	(-0.8, 0.8)
$100,000 or more	-0.3	(-0.9, 0.3)
Don't know/refused	**	

A single asterisk (*) indicates a NDR significantly different from zero at the 90% confidence level.

A double asterisk (**) indicates a suppressed NDR, or too few cases to accurately compute.

TFS-3 for Current Teachers
Reasons for Differences by Question

Question/Reason for Difference	Count	Percent
Cover. Still Teaching?		
Total	6	100.0
Misunderstood question	2	33.3
Gave 'usual' case answer	1	16.7
Manual/general error	1	16.7
Category problems	1	16.7
Other	1	16.7
1. MAIN activity and OTHER main activity? Main activity		
Total	41	100.0
Don't know	13	31.7
Misunderstood question	12	29.3
Time divided between categories	4	9.8
Forgot/remembered info	3	7.3
Situation changed since responding	2	4.9
Manual/general error	2	4.9
Category problems	2	4.9
Other	1	2.4
Misunderstood reference period	1	2.4
Misread question	1	2.4
2. Position as a school EMPLOYEE?		
Total	8	100.0
Time changed since responding	3	37.5
Don't know	2	12.5
Itinerant teacher - wasn't sure whether to include work at all schools	1	25.0
Misunderstood question	1	12.5
Misunderstood reference period	1	12.5

Question/Reason for Difference	Count	Percent
3a. Time as a TEACHER?		
Total	10	100.0
Amount of time teaching changed since responding	4	40.0
Other	2	20.0
Answered as "total employee"	1	10.0
Amount of time teaching varies	1	10.0
Itinerant teacher - wasn't sure which school referenced	1	10.0
Misunderstood reference period	1	10.0
3b. Teaching assignment?		
Total	13	100.0
Misunderstood question	3	23.1
Category problems	3	23.1
Situation changed since responding	2	15.4
Don't know	2	15.4
Forgot/remembered info	1	7.7
Manual/general error	1	7.7
FR error	1	7.7
4. Other school assignment?		
Total	20	100.0
Don't know	9	45.0
Missed skip pattern/question	3	15.0
More than one category fits situation	2	10.0
Wasn't sure what one/more categories meant	2	10.0
Misunderstood question	2	10.0
Other	1	5.0
Category problems	1	5.0

Question/Reason for Difference	Count	Percent
5a. MAIN teaching assignment at this school?		
Total	16	100.0
Teach both assignments	3	18.8
Couldn't distinguish between answer categories	3	18.8
Don't know	3	18.8
Misunderstood question	3	18.8
Main assignment changed since responding	1	6.3
Wasn't sure whether to report population/subject matter	1	6.3
Manual/general error	1	6.3
FR error	1	6.3
5b. Teach classes in OTHER fields at this school? Yes/No response		
Total	25	100.0
Misunderstood Question	5	20.0
Didn't know what to include/exclude	4	16.0
Forgot/remembered info	3	12.0
Don't know	3	12.0
Missed skip pattern/question	2	8.0
Stopped teaching other fields since responding	1	4.0
Started teaching other fields since responding	1	4.0
Couldn't distinguish between answer categories	1	4.0
Don't know	1	4.0
Manual/general error	1	4.0
FR error	1	4.0
Misread question	1	4.0
Category problems	1	4.0
5b. Teach classes in OTHER fields at this school? Field code		
Total	10	100.0
Don't know	5	50.0
Teach both assignments	3	30.0
Other assignment changed since responding	1	10.0
Wasn't sure whether to report population/subject matter	1	10.0

Question/Reason for Difference	Count	Percent
6a. Teaching certificate in this State in this Main teaching assignment field?		
Total	11	100.0
Missed skip pattern/question	3	27.3
Don't know	2	18.2
Certificate applies to another state	2	18.2
Received certificate since responding	1	9.1
Unsure what "Teaching Certificate" meant	1	9.1
Forgot/remembered information	1	9.1
Manual/general error	1	9.1
6b. Type of Certification?		
Total	32	100.0
Wasn't sure what one or more categories meant	13	40.6
No choice described certification	5	15.6
Don't know what certification they have	4	12.5
Misunderstood question	2	6.3
Forgot/remembered information	2	6.3
Other	2	6.3
Received certificate since responding	1	3.1
Missed skip pattern/question	1	3.1
Refused to answer in one interview	1	3.1
Don't know	1	3.1
6c. Certificate granted within the last 12 months?		
Total	14	100.0
Misunderstood question	4	28.6
Couldn't remember when certificate was granted	3	21.4
Missed skip pattern/question	2	14.3
FR error	2	14.3
Other	2	14.3
Don't know	1	7.1

Question/Reason for Difference	Count	Percent
7a. Teaching certificate in this state in OTHER teaching assignment field?		
Total	36	100.0
Don't know	17	47.2
Misunderstood question	5	13.9
Missed skip pattern/question	3	8.3
Other	3	8.3
Realized certificate is in other field	2	5.6
Realized certificate applies to another another state	2	5.6
Realized certificate is not in other field	2	5.6
Forgot/remembered info	1	2.8
FR error	1	2.8
7b. Type of certification?		
Total	7	100.0
No choice described certification	2	28.6
Don't know	2	28.6
Wasn't sure what one or more categories meant	1	14.3
Refused to answer in one interview	1	14.3
FR error	1	14.3
7c. Certificate granted within the last 12 months?		
Don't know	1	100.0

Question/Reason for Difference	Count	Percent
8. Grade levels of students in your classes at THIS school?		
Total	49	100.0
Don't know	16	32.7
Misunderstood question	6	12.2
Teaching different students since responding	4	8.2
Unsure whether to report grade levels of students sometimes taught	4	8.2
Misunderstood what "grade level/class" meant	4	8.2
Forgot/remembered info	4	8.2
FR error	3	6.1
Teach special students - difficulty reporting equivalent graded levels	2	4.1
Other	2	4.1
Misunderstood reference period	2	4.1
Teach special students - unsure whether to report as "ungraded" or equivalent graded levels	1	2.0
Unsure whether to report level of classes with few students	1	2.0
9. Community in which this school is located?		
Total	43	100.0
Wasn't sure of population of community	14	32.6
More than one category applies	11	25.6
Don't know	9	20.9
Misunderstood question	4	9.3
FR error	2	4.7
Other	2	4.7
Missed skip pattern/question	1	2.3
10. Teaching in the SAME school?		
Total	10	100.0
Don't know	3	30.0
Taught in two schools last year, one this this year	3	30.0
Misunderstood question	2	20.0
Other	1	10.0
Misunderstood reference period	1	10.0

Question/Reason for Difference	Count	Percent
11. Teaching in same state? Yes/No response		
Unsure what "Schools and Staffing Survey" meant	1	100.0
11. Teaching in same state? State code	no reasons listed	
12. Moved from last year's school to this year's school?		
Total	4	100.0
Don't know	2	50.0
Misunderstood question	1	25.0
Manual/general error	1	25.0
13. Religious affiliation?	no reasons listed	
29b(1). Academic base year salary during the CURRENT SCHOOL YEAR for teaching in this school?		
Total	109	100.0
Wasn't sure of exact amount	71	65.1
Salary changed since responding	9	8.3
Don't know	9	8.3
Included other salary earnings	4	3.7
Misunderstood question	3	2.8
FR error	3	2.8
Included another source of income	2	1.8
Forgot/remembered info	2	1.8
Misunderstood reference period	2	1.8
Manual/general error	2	1.8
Wasn't sure how to report as an itinerant teacher	1	0.9
Gave after-tax earnings	1	0.9

Question/Reason for Difference	Count	Percent
29b(2). Additional compensation for extracurricular/additional activities from school? Yes/No response		
Total	45	100.0
Taken on/given up activities since responding	14	31.1
Remembered/forgot activities	9	20.0
Don't know	8	17.8
Unsure what "additional compensation" meant	5	11.1
Other	2	4.4
Missed skip pattern/question	2	4.4
Changed jobs since responding	1	2.2
Misunderstood question	1	2.2
Manual/general error	1	2.2
FR error	1	2.2
Didn't know what to include/exclude	1	2.2
29b(2). Additional compensation for extracurricular/additional activities from school? Monetary response		
Total	24	100.0
Wasn't sure of exact amount	13	54.2
Remembered/forgot activities	6	25.0
Reported expected earnings	2	8.3
Don't know	1	4.2
Unsure what "additional compensation" meant	1	4.2
Misunderstood question	1	4.2

Question/Reason for Difference	Count	Percent
29b(3). Additional compensation outside school system? Yes/No response		
Total	46	100.0
Don't know	13	28.3
Unsure what constituted job	7	15.2
Took up job since responding	4	8.7
Misunderstood question	4	8.7
Missed skip pattern/question	3	6.5
Misunderstood reference period	3	6.5
Quit job since responding	2	4.3
Other	2	4.3
Forgot/remembered info	2	4.3
FR error	2	4.3
Didn't know what to include/exclude	2	4.3
Refused to answer in one interview	1	2.2
Manual/general error	1	2.2
29b(3). Additional compensation outside school system? Monetary response		
Total	14	100.0
Wasn't sure of exact amount	8	57.1
Reported expected earnings	2	14.3
Don't know	2	14.3
Refused to answer in one interview	1	7.1
Misunderstood reference period	1	7.1
29b(3a). Job outside the school system?		
Total	9	100.0
Don't know	2	22.2
Missed skip pattern/question	2	22.2
Forgot/remembered info	2	22.2
Changed jobs since responding	1	11.1
Has more than one Job	1	11.1
Misunderstood question	1	11.1

Question/Reason for Difference	Count	Percent
30. Income-in-kind?		
Total	23	100.0
Wasn't sure what to report as income-in-kind	7	30.4
Unsure whether to report partial income-in-kind	4	17.4
Don't know	3	13.0
Income-in-kind changed since responding	2	8.7
Missed skip pattern/question	2	8.7
Forgot/remembered info	2	8.7
Other	1	4.3
Manual/general error	1	4.3
Misread question	1	4.3
31. Total combined income of ALL FAMILY MEMBERS age 14 and older in your household during 1991?		
Total	84	100.0
Unsure of exact amount	41	48.8
Don't know	11	13.1
Unsure what to include/exclude	8	9.5
Misunderstood reference period	7	8.3
Wasn't sure whether to include adult children	4	4.8
FR error	4	4.8
Misunderstood question	2	2.4
Refused to answer in one interview	2	2.4
Other	1	1.2
Missed skip pattern/question	1	1.2
Forgot/remembered info	1	1.2
Manual/general error	1	1.2
Misread question	1	1.2

TFS-2 for Former Teachers
After Reconciliation NDRs by Response Categories

Question/ Response Category	NDR%	Confidence Limits
Cover. Still Teaching?		
Yes	**	
No	**	
1. MAIN OCCUPATIONAL status?		
Working in elementary/secondary school with assignment OTHER THAN teaching	0.8*	(0.1, 1.4)
Working in occupation outside elementary/secondary education	-0.8	(-1.7, 0.2)
Attending college/university	-0.2	(-0.6, 0.3)
Homemaking/child rearing	-0.9	(-2.0, 0.2)
Retired	-0.3	(-1.2, 0.6)
Disabled	**	
Other	1.5*	(0.2, 2.8)
2. MAIN school assignment?		
Administrator	0.0	(-3.6, 3.6)
Nonteaching specialist	**	
Resource person for other teachers	**	
Support staff	**	
Coach	**	
Other	**	
4. Position as an EMPLOYEE?		
Full time employee	-1.6	(-4.1, 0.1)
>= 3/4 time, < full-time	**	
>= 1/2 time, < 3/4 time	**	
>= 1/4 time, < 1/2 time	**	
< 1/4 time employee	**	

A single asterisk (*) indicates a NDR significantly different from zero at the 90% confidence level.

A double asterisk (**) indicates a suppressed NDR, or too few cases to accurately compute.

Question/ Response Category	NDR%	Confidence Limits
5. Altogether, how much do you usually earn at this job before deduction?		
Hour	-1.2	(-3.6, 0.4)
Day	**	
Week	**	
Biweekly	**	
Month	1.8	(-1.3, 4.9)
Year	-1.8	(-4.9, 1.3)
Other	**	
Do not know/refused	**	
9. New Degree?		
Yes	0.5	(-0.1, 1.1)
No	-0.5	(-1.1, 0.1)
11. What type of degree is it?		
Associate degree	**	
Bachelor's	**	
Master's	**	
Education specialist/professional diploma		
Doctorate	**	
Professional	**	
	**	
12. Major field of study for NEW DEGREE?		
General education	**	
Subject area education	**	
Special education	**	
other education	**	
General	**	
Foreign languages	**	
Natural sciences	**	
Social sciences	**	
Other	**	

A single asterisk (*) indicates a NDR significantly different from zero at the 90% confidence level.

A double asterisk (**) indicates a suppressed NDR, or too few cases to accurately compute.

Question/ Response Category	NDR%	Confidence Limits
13. For what purpose did you earn this degree?		
To increase salary	**	
For professional development in current field	**	
To teach in different field than one taught last year	**	
For nonteaching position in elementary or secondary education	**	
For occupation outside elementary or secondary education other than current job	**	
Other	**	
14. Currently enrolled in a degree program?		
No	-0.5	(-1.3, 0.4)
Yes, as a full-time student	-0.3	(-1.1, 0.4)
Yes, as a part-time student	0.8*	(0.1, 1.5)
15. What type of degree are you pursuing?		
Associate degree	**	
Bachelor's	**	
Master's	0.0	(-3.0, 3.0)
Education specialist/professional diploma	**	
Doctorate	**	
Professional	**	

A single asterisk (*) indicates a NDR significantly different from zero at the 90% confidence level.

A double asterisk (**) indicates a suppressed NDR, or too few cases to accurately compute.

Question/ Response Category	NDR%	Confidence Limits
16. Major field of study for degree you are pursuing?		
General education	**	
Subject area education	**	
Special education	**	
Other education	**	
General fields	**	
Foreign languages	**	
Natural sciences	**	
Social sciences	**	
All others	**	
17. For what purpose are you pursuing this degree?		
To increase salary	**	
For professional development in current field	2.2	(-2.5, 7.0)
To teach in different field than one taught last year	**	
For nonteaching position in elementary or secondary education	**	
For an occupation outside elementary or secondary education other than current job	**	
Other	**	
21a. "Lifetime" teaching certificate?		
Yes	0.0	(-1.1, 1.1)
No	0.2	(-1.0, 1.3)
Don't know/refused	**	
21b. Change in teacher certification since last year?		
No change	-2.3*	(-3.9, -0.8)
Yes-Certification has lapsed	1.0*	(0.1, 2.3)
Yes-Certification has been upgraded	**	
Yes-Certified in different field	**	
Other change	**	

A single asterisk (*) indicates a NDR significantly different from zero at the 90% confidence level.

A double asterisk (**) indicates a suppressed NDR, or too few cases to accurately compute.

Question/ Response Category	NDR%	Confidence Limits
28. Total combined income?		
Less than $10,000	**	
$ 10,000 - $14,999	**	
$ 15,000 - $19,999	0.8	(-0.3, 1.9)
$ 20,000 - $24,999	-1.2*	(-2.2, -0.3)
$ 25,000 - $29,999	2.0*	(0.8, 3.3)
$ 30,000 - $34,999	-0.9	(-2.3, 0.4)
$ 35,000 - $39,999	0.2	(-1.2, 1.5)
$ 40,000 - $49,999	-0.6	(-2.1, 0.8)
$ 50,000 - $59,999	-0.3	(-1.5, 0.9)
$ 60,000 - $74,999	0.5	(-1.0, 2.0)
$ 75,000 - $99,999	-1.1*	(-2.1, -0.1)
$100,000 or more	0.2	(-0.6, 1.0)
Other	**	
29. Current marital status?		
Married	0.0	(-0.6, 0.6)
Widowed, divorced, or separated	-0.2	(-0.7, 0.3)
Never married	-0.2	(-0.7, 0.2)
Don't know/refused	**	
30. Dependent children for more than half of their financial support?		
None	-0.8	(-1.7, 0.2)
1	-0.3	(-1.4, 0.8)
2	0.5	(-0.5, 1.4)
3	0.5	(-0.1, 1.0)
4	**	
5	**	
Other	**	

A single asterisk (*) indicates a NDR significantly different from zero at the 90% confidence level.

A double asterisk (**) indicates a suppressed NDR, or too few cases to accurately compute.

Question/ Response Category	NDR%	Confidence Limits
31. Age of youngest child?		
None	0.0	(-1.5, 1.5)
1 to 5 years	0.0	(-1.2, 1.2)
6 to 10 years	1.4	(-0.1, 2.8)
11 to 15 years	-1.0	(-2.4, 0.3)
16 to 20 years	-0.3	(-1.4, 0.7)
21 to 25 years	**	
26 to 30 years	**	
31 to 35 years	**	
36 to 40 years	**	
Other	**	
32a. Other dependent persons for more than half of their financial support?		
Yes	0.0	(-0.7, 0.7)
No	-0.3	(-1.1, 0.5)
Don't know/refused	**	
32b. How many persons?		
None	**	
1 person	**	
2 persons	**	
Other	**	

A single asterisk (*) indicates a NDR significantly different from zero at the 90% confidence level.

A double asterisk (**) indicates a suppressed NDR, or too few cases to accurately compute.

TFS-2 for Former Teachers
Reasons for Differences by Question

Question/Reason for Difference	Count	Percent
Cover. Still Teaching?		
Total	11	100.0
Didn't understand what 'teaching' meant	4	36.4
Misunderstood question	2	18.2
Temporarily not teaching	1	9.1
Student teaching	1	9.1
Forgot/remembered info	1	9.1
FR error	1	9.1
Don't know	1	9.1
1. MAIN OCCUPATION STATUS?		
Total	33	100.0
Occupational status changed since responding	11	33.3
Category problems	11	33.3
Misunderstood question	4	12.1
Other	3	9.1
FR error	2	6.1
Forgot/remembered info	1	3.0
Manual/general error	1	3.0
2. MAIN school assignment?		
Total	2	100.0
Became position since responding	1	50.0
Don't know	1	50.0
3a. For whom do you work?		
Total	6	100.0
Changed jobs since responding	2	33.3
Manual/general error	2	33.3
Didn't know what to include/exclude	1	16.7
Don't know	1	16.7
4. Position as an EMPLOYEE?		
Total	5	100.0
Amount of time spent working varies	2	40.0
Changed jobs since responding	1	20.0
Other	1	20.0
Missed skip pattern/question	1	20.0

Question/Reason for Difference	Count	Percent
5. Altogether, how much yo you usually earn at this job before deduction?		
Total	52	100.0
Wasn't sure of exact amount	18	34.6
Salary changed since responding	8	15.4
Wasn't sure what to report	8	15.4
Reported in different units	4	7.7
Changed jobs since responding	3	5.8
Thought question asked for net earnings	2	3.8
Missed skip pattern/question	2	3.8
Other	1	1.9
Don't know	1	1.9
Misunderstood question	1	1.9
Refused to answer in one interview	1	1.9
Forgot/remembered info	1	1.9
Manual/general error	1	1.9
FR error	1	1.9
9. New Degree?		
Total	7	100.0
Other	3	42.9
Don't know	2	28.6
Earned new degree since responding	1	14.3
Had some kind of training in mind	1	14.3
10. When did you earn this new degree?		
Couldn't remember exact month/year	1	100.0
11. What type of degree is it?	no reasons listed	
12. Major field of study for NEW DEGREE?	no reasons listed	
13. For what purpose did you earn this degree?		
Category problems	1	100.0

Question/Reason for Difference	Count	Percent
14. Currently enrolled in a degree program?		
Total	12	100.0
Ended enrollment since responding	3	25.0
FR error	3	25.0
Misunderstood question	2	16.7
Enrolled since responding	1	8.3
Missed skip pattern/question	1	8.3
Manual/general error	1	8.3
Other	1	8.3
15. What type of degree are you pursuing?		
Total	3	100.0
Wasn't sure where degree fit in categories	2	66.7
FR error	1	33.3
16. Major field of study for degree you are pursuing?		
Total	7	100.0
Didn't know difference between answer categories	3	42.9
Pursuing dual major degree	1	14.3
Changed major since responding	1	14.3
FR error	1	14.4
Misread question	1	14.3
17. For what purpose are you pursuing this degree?		
Total	11	100.0
Both categories equally describe situation	5	45.5
Category problems	5	45.5
Don't know	1	9.1

Question/Reason for Difference	Count	Percent
21a. "Lifetime" teaching certificate?		
Total	20	100.0
Don't know	6	30.0
Unsure whether certification was lifetime	5	25.0
Received certificate since responding	2	10.0
Thought certificate was lifetime	2	10.0
Other	2	10.0
Wasn't sure which state(s) question referred to	1	5.0
Forgot/remembered info	1	5.0
Misunderstood question	1	5.0
21b. Change in teacher certification since last year?		
Total	15	100.0
Misunderstood question	5	33.3
Change since responding	4	26.7
Category problems	3	20.0
Misunderstood reference period	1	6.7
Didn't know what to include/exclude	1	6.7
Other	1	6.7
28. Total combined income?		
Total	136	100.0
Wasn't sure of exact amount	67	49.3
Wasn't sure what to include/exclude	25	18.4
Don't know	13	9.6
Misunderstood reference period	11	8.1
Refused to answer question in one interview	5	3.7
Manual/general error	4	2.9
Misunderstood question	3	2.2
Wasn't sure whether to include adult children	2	1.5
Other	2	1.5
Forgot/remembered info	1	0.7
Gave "usual" case answer	1	0.7
FR error	1	0.7
Category problems	1	0.7

TFS-2R
Reasons for Differences by Question

Question/Reason for Difference	Count	Percent
29. Current marital status?		
Total	2	100.0
Changed since responding	1	50.0
Missed skip pattern/question	1	50.0
30. Dependent children for more than half of their financial support?		
Total	29	100.0
Number changed since responding	12	41.4
Don't know	5	17.2
Wasn't sure whether support was more than half	4	13.8
Other	3	10.3
Unsure what "children" meant	3	10.3
Misunderstood question	2	6.9
31. Age of youngest child?		
Total	31	100.0
Child had birthday since responding	22	71.0
Misunderstood question	3	9.7
Manual/general error	3	9.7
Missed skip pattern/question	1	3.2
FR error	1	3.2
Other	1	3.2
32a. Other dependent persons for more than half of their financial support?		
Total	9	100.0
Had different ideas what dependent meant	4	44.4
Unsure what "other persons" meant	2	22.2
Situation changed since responding	1	11.1
Other	1	11.1
Wasn't sure whether support was more than half	1	11.1
32b. How many persons?		
Total	4	100.0
Situation changed since responding	2	50.0
different ideas what dependent meant	2	50.0

An Evaluation of the Methodology Utilized for the 1991-92 Teacher Follow-up Survey (TFS) Reinterview and Extensive Reconciliation: Part Two of a Two-Part Report

by: Cleo R. Jenkins
Center for Survey Methods Research
Statistical Research Division

and

Angela-Jo Wetzel
Quality Assurance and Evaluation Branch
Demographic Statistical Methods Division
December 19, 1994

Acknowledgements. The authors would like to thank Theresa J. DeMaio, John Bushery, and Irwin Schreiner for commenting on this report.

I. Executive Summary

A. Purpose

The 1991-92 Teacher Follow-up Survey (TFS) Reinterview and Extensive Reconciliation represents the Bureau's first attempt to employ an extensive structured reconciliation. We used cognitive methods to develop probes, which elicited respondents' reasons for response differences.

This project's goals were to identify problematic questions, to identify the source of the problems, and to offer suggestions for improving the TFS questionnaires.

This report focuses on the reinterview and extensive reconciliation methodology and offers suggestions to improve it. The first report discussed the results of the reinterview and offered suggestions to improve the TFS questionnaires (Jenkins and Wetzel, 1994).

B. Major Finding

Based on expectations from past reinterviews, the 1991-92 TFS Reinterview and Extensive Reconciliation produced too few differences between the original and reinterview responses and, hence, too few reasons for differences.

We believe this disappointing result occurred because the reinterview in the 1991-92 TFS was not independent from the original interview. The results suggest that in some cases, reinterviewers did not ignore the original responses, reducing the independence between the original interview and the reinterview.

C. Recommendation

We strongly suggest employing a methodology other than a dependent-type reinterview to elicit reasons for response differences. We provide detailed descriptions of the following methodologies in Section V, Proposed Methodological Revisions:

- an independent reinterview followed by a third-visit small-scale unstructured reconciliation, or
- an independent reinterview with a large-scale extensive reconciliation conducted at the same time using computer-assisted interviewing (CATI or CAPI), or
- a monitored independent CATI reinterview followed by a third-call reconciliation.

II. Introduction

Traditionally, reinterviews have been designed for one or more of the following purposes:

- to detect whether interviewers have deliberately falsified data;
- to evaluate interviewer performance;
- to estimate response variance; and/or
- to estimate response bias (Forsman and Schreiner, 1991).

Many reinterviews performed by the Census Bureau focus on estimating response variance. Although measuring response variance exposes inconsistencies in respondents' answers between interviews, it does little to explain why the inconsistencies occur.

Consequently, the 1991-92 TFS Reinterview and Extensive Reconciliation was designed with a new objective in mind. It focused on determining the reasons for respondent and instrument errors.

III. Methodology

A. Description of the 1991-92 TFS Reinterview and Extensive Reconciliation

The Census Bureau conducted the 1991-92 TFS a year after collecting information from teachers in the 1990-91 Schools and Staffing Survey (SASS) for the National Center for Education Statistics (NCES). The TFS' purpose was to provide information about teacher attrition and to project teacher demand (Faupel et al., 1992). In general, the Census Bureau conducted the TFS Reinterview and Extensive Reconciliation two to three weeks after the TFS.

Both the TFS and the TFS Reinterview and Extensive Reconciliation contained two components: one for former teachers and another for current teachers. Each component had its own questionnaire (the TFS-2 for former teachers and the TFS-3 for current teachers), asking primarily different questions. The reinterview reasked a subset of questions from the TFS. The NCES chose the questions for reinterview. The Census Bureau offered suggestions, favoring factual over opinion-seeking or attitudinal questions.

The TFS Reinterview and Extensive Reconciliation was a dependent-type reinterview. The original TFS responses were transcribed onto the reinterview

questionnaires so that the reinterviewers could reconcile any response differences.

B. Development of the Extensive Reconciliation Probes

The use of an extensive reconciliation distinguishes this reinterview from others. It contained a series of probes aimed at identifying the reason for response differences and a reconciliation question to determine the correct response.

Closed-ended probes offered respondents specific reasons for differences. They were not the same from question to question, but tailored to each reinterview question. We used closed-ended probes to capture the data efficiently.

If the respondent did not choose one of the closed-ended probes, they were asked the open-ended probe: "Or was there some other reason [for the difference]?". The open-ended reasons were professionally reviewed and clerically coded prior to data entry.

C. Gross Difference Rate (GDR)

One of the three measures we used to analyze the data from the TFS Reinterview and Extensive Reconciliation, and referenced in this report, is the gross difference rate (GDR). The GDR is the proportion of responses that differ between the original interview and the reinterview. It provides a rough idea of how consistently respondents answer a question. We calculated the GDR before reconciliation for the overall question.

Note: The first report details the sample selection and procedures for conducting the 1991-92 TFS Reinterview and Extensive Reconciliation.

IV. Results and Discussion

The 1991-92 TFS Reinterview and Extensive Reconciliation methodology had a number of shortcomings, which we first list below and then discuss in detail.

- The dependent-type reinterview produced too few differences.
- The reconciliation produced too many open-ended reasons for differences.
- The reconciliation produced too many general reasons for differences.

A. Dependent-Type Reinterview Produced Too Few Differences

The dependent-type reinterview produced too few differences. Hence, the reconciliation produced too few reasons for differences. To demonstrate this finding, Section 1 describes the ideal response variance model. Section 2 compares the 1992 methodology to the ideal to explain the effects departures from the ideal could have on response variance. Section 3 compares the 1992 methodology to the 1989 TFS Reinterview and shows how the dependent-type reinterview reduced the number of differences. Finally, Section 4 offers reasons why the reinterviewers may have referred to the original responses.

1. The Ideal Response Variance Model

The ideal model of a response variance reinterview assumes a model of independent replication. With this model, responses have the same expected values across trials. The expectation is that identical questions asked under the same conditions will suffer from the same underlying response error. This error is random and may or may not occur in any given interview, unless a real change has occurred in the characteristic being measured.

Given independent replication, differences in respondents' answers suggest that at least one failure occurred at some point in the question-response process in at least one of the interviews. Either the questions were misunderstood; required information the respondents did not have, could not recall, or could not provide in the detail desired; or asked for information respondents were not willing to accurately provide. However, even with independent replication, a reinterview will not be able to detect consistent failures in comprehension, memory retrieval, or willingness to answer the questions.

Given independent replication, questions with high GDRs exhibit problems to a greater degree than questions with low GDRs. Questions exhibiting high GDRs are of the greatest concern to us because they contribute the most to measurement error.

2. Comparing the 1992 Model to the Ideal

The design of the 1991-92 TFS Reinterview and Extensive Reconciliation departed from the ideal in two major ways: it was neither independent nor a perfect replication of the original interview.

a. Lack of Independence

1) Original Response Effect

The original TFS responses were transcribed onto the reinterview questionnaires, making this a dependent-type reinterview. Evidence exists from past research that having the original responses visible or available to the reinterviewers results in fewer differences (Schreiner, 1980; Koons, 1973). We feel this lack of independence affected our results more than the other effects we consider below.

2) Memory Effect

Respondents' memories may also interfere with independence. Respondents may wish to appear consistent, rather than admit they misunderstand something. To the extent this occurs, reinterview measures will be artificially depressed. Blair and Sudman (1993) found between one-third to one-half of reinterview respondents reported trying to remember their original answers. Whether or not this led to artificially suppressed reinterview measures was not studied.

b. Lack of Replication

1) Mode of Administration Differences

The 1991-92 TFS Reinterview and Extensive Reconciliation was administered exclusively by phone, whereas 56 percent of the original cases were self-administered. At this time, the literature (e.g Tarnai and Dillman, 1989; Dillman and Tarnai, 1990; Parmer et al., 1992) seems to suggest that questions concerning "subjective" phenomena are more likely to be affected by mode differences than questions concerning "objective" phenomena. Since the reinterview questions are mainly "objective," the mixed mode of administration should have less of an effect on the results than might otherwise be the case.

Even with the same mode of administration between the original interview and the reinterview, data from the 1991 SASS suggest that mail may be more consistent than phone (Bushery, et al., 1992). However, the SASS did not use a controlled experiment.

2) Interviewer Differences

Field representatives (FRs) conducted the portion of the original interviews that were done by phone. Whereas, supervisory field representatives (SFRs) conducted all of the reinterviews. In this case, response variance may reflect interviewer differences, rather than purely reflecting respondent or instrument error.

Even with interviewer differences, a theory is that response variance will be lowered with better trained interviewers (i.e., SFRs). Therefore, FRs in the original interview followed by SFRs in the reinterview should be more consistent than FRs in both the original and reinterview. However, in reality, we feel that the effect of interviewer differences, if any, is minimal.

3. Comparing the 1992 Model to the 1989 Methodology

Table 1 lists the fourteen questions from the 1991-92 TFS Reinterview and Extensive Reconciliation that are the same as those from the 1989 TFS Reinterview. All but two of the 1992 questions have before-reconciliation GDRs significantly lower than their 1989 counterpart at the 90% confidence level. An asterisk (*) in the 1992 rate column indicates significance.

Both surveys used a mixed mode of administration and both were subject to the effect respondents' memories played in the process. Therefore, it is unlikely that either of these led to the lower GDRs in 1992.

However, the 1989 and 1992 surveys had two major differences that could have contributed to the lower GDRs in 1992:

- The 1989 methodology used an independent reinterview, whereas the 1992 methodology used a dependent-type reinterview combined with a reconciliation.

- The 1989 methodology used FRs in both the original interview and reinterview. In contrast, the 1992 procedures used SFRs to conduct the reinterview and extensive reconciliation, since FRs are not trained to conduct a reconciliation. We hoped that the SFRs would ignore the original responses. However, the data suggest that this was not the case.

Table 1. Before Reconciliation GDRs - 1992 versus 1989

Question			1992 GDR%	1989 GDR %
'92#	'89 #	Title		
		TFS-3R:		
6a	5a	Main teaching assignment - Field	1.6*	11.2
6a	5a	check box	3.0	3.8
6b	5b	Teach classes in other fields - Y/N	3.7*	13.5
6b	5b	Field	3.4*	17.3
7a	6a1	Certificate in state in main assignment field	1.5*	7.8
7b	6b1	Type of certificate	6.3*	17.6
8a	6a2	Certificate in state in other assignment field	13.4*	24.5
8b	6b2	Type of certificate	9.0	10.9
11	9	Teaching is same school	1.6*	5.1
15a	32b	Academic base year teaching salary-$	14.8*	28.0
15b	32c	Added compensation from school-$	20.4*	59.0
		TFS-2R:		
2	1	Main occupational status	6.9*	17.6
16a	21a	Lifetime teaching certificate	3.3*	7.7
		TFS-3R&2R:		
1	7	Still teaching [1]	1.3*	6.8

[1] We combined the response counts from the 1992 TFS-3(R) and 2(R) questionnaires to correspond to the combined 1989 results for this question.

4. Possible Reasons Reinterviewers Refer to the Original Responses

a. Temptation

Regardless of their interviewing experience and training, perhaps reinterviewers are simply "too tempted" by the original response to do anything but use it.

b. Inadequate Training

1) Missing Instructions

Perhaps we don't properly train reinterviewers to ignore the original response. A close inspection of our training manual reveals that we were less clear on this issue than intended. Nowhere does it clearly instruct the SFRs to ignore the original response during the reinterview (Harris, 1992).

Also, the training manual did not contain instructions to deal with the potentially biasing situation of respondents having difficulty choosing between two or more categories in the original interview. For example, suppose they had difficulty deciding whether their community was "A large city" or "A suburb of a very large city," but in the end they marked "A suburb of a very large city." It is very likely the respondent voiced this problem in the reinterview, telling the SFR that he or she was having difficulty choosing between these two categories. Since one of the categories agrees with the original response, it makes sense that the SFRs would choose that one, inadvertently biasing the results in favor of the original response.

2) Ignored or Misunderstood Instructions

A reason for believing that our instructions were either ignored or misunderstood is provided by a perplexing piece of data. We received approximately 17 percent more reasons for differences in respondents' answers than there were actual differences. In these cases, reinterviewers asked respondents the reconciliation probes when they weren't supposed to, although, admittedly, it is difficult to understand how or why they did this, since there weren't any differences to reconcile. Also, the reverse situation occurred. We have differences with no reason given in

approximately 13 percent of the cases. Table 2 lists the counts of reasons incorrectly provided or omitted.

Table 2. Counts of Reasons Incorrectly Provided or Omitted

Form	Expected Reasons[2]	Reasons Incorrectly Provided	Reasons Incorrectly Omitted
Total	1069	180	141
(%)	100.0	16.8	13.2
TFS-2	408	33	44
(%)	100.0	8.1	10.8
TFS-3	661	147	97
(%)	100.0	22.2	14.7

B. The Reconciliation Produced Too Many Open-ended Responses

Approximately 54% of the total number of reasons respondents gave for differences (1108) were open-ended. This unexpectedly high percentage suggests that the series of closed-ended probes did a relatively poor job of providing respondents with adequate reasons for differences in their responses.

C. The Reconciliation Produced Too Many General Responses

An even larger deficiency with the reconciliation probes was that respondents did not adequately verbalize the reasons for differences in their answers when the closed-ended questions did not apply. Approximately 43% of the open-ended responses were "don't know" or "misunderstood question." This is a much more serious error than obtaining open-ended responses that could be coded to specific reasons. The general responses led to the omission of useful data. Table 3 at the end of this section lists the counts of the types of open-ended reasons given for differences.

---

[2] The count of Expected Reasons equals:
Total Reasons Given - Reasons Incorrectly Provided + Reasons Incorrectly Omitted.

Possible reasons for the general responses are:

- A structured reconciliation may not provide enough encouragement for "less verbal" respondents to express themselves. In this setting, respondents are only asked to talk at any length if they haven't chosen one of the closed-ended reasons. Some respondents may feel uncomfortable in this situation. This may be especially true if the pace of the interview is such that respondents are given the impression that we don't really want them to take the time to think about, and subsequently, verbalize their answers.

- Perhaps respondents didn't adequately understand why they were being asked to explain the differences in their responses. Therefore, they didn't make the necessary effort to do so. They just opted for "don't know" or "misunderstood question," since these responses probably satisfied the reinterviewer while not requiring much effort on their part. The study by Blair and Sudman (1993), in which respondent perceptions of a reinterview were measured, lends credence to this hypothesis. This study demonstrates significant amounts of respondent uncertainty about the necessity of reinterviews.

- Related to the above reasons is inadequate reinterviewer training on our part. We should have trained reinterviewers to probe respondents further when respondents gave a "don't know" or "misunderstood question" response. On the other hand, perhaps the field staff may need more training in probing than we can provide.

- Perhaps respondents truly "don't know" the reason for the difference in their responses. This is likely to occur when the problem is related to the layout of the questionnaire. Jenkins and Dillman (1993) suggest that layout problems give rise to measurement errors of which respondents aren't aware. This will also be the case when respondents can't remember what they were thinking as they answered the question. Ericsson and Simon (1980) assert that what is remembered, and how well, will generally depend critically on the interval between the moment of acquisition and the moment of recall.

Table 3. Counts of Types of Open-ended Reasons for Differences

Form	Total	Type			
		"Other"	"Don't Know"	"Misunderstood"	Coded[3]
Total	599	42	171	87	299
(%)	100.0	7.0	28.5	14.5	49.9
TFS-2	201	19	31	23	128
(%)	100.0	9.5	15.4	11.4	63.7
TFS-3	398	23	140	64	171
(%)	100.0	5.8	35.2	16.1	43.0

V. Proposed Methodological Revisions

In this study, we expanded the traditional reinterview's purpose by including an extended reconciliation that was aimed at finding the underlying causes of a question's problem. Based on our results, we think that this is still a reasonable goal to pursue, although we didn't perfectly achieve it. The first report suggests that despite the shortcomings of this study, we were still able to extract meaningful results from the data and recommend improvements to some questions.

We do not endorse any one method to evaluate questionnaires. In our view, most methods bring to the analysis different strengths and weaknesses. We believe that in the short run certain circumstances may dictate that one method is better than another, but in the long run using a combination of techniques (cognitive interviewing, focus groups, standard field tests, and so on) is advisable.

In the following discussion, we present several reinterview/reconciliation methods. The methodologies need to be implemented and their results evaluated before they can be assessed as truly valid questionnaire design tools.

A. Independent Reinterview Followed By A Third-Visit Small-Scale Unstructured Reconciliation

One possibility is to use an independent, large-scale, probability sample reinterview via the same mode as the original interview. The purpose of the reinterview will be to identify problem questions. The advantage of relying on

---

[3] These are open-ended reasons that were coded to specific reasons and captured as such.

an independent reinterview is that it will eliminate interviewer bias in the response variance data. The advantage of a large-scale probability sample is that the results will be generalizable. We recommend using the same mode to conduct the reinterview as the original interview to alleviate mode differences as a plausible explanation for response variance.

Once the reinterview is complete and problem questions have been identified, we recommend that a small number of problem cases be randomly selected for a personal visit unstructured reconciliation. In this visit, respondents will be asked to explain the reasons for their response differences using the same kind of nonleading probes that are used in cognitive interviews.

In a standard cognitive interview, respondents often become quite adept at verbalizing questionnaire problems because of the special techniques employed. At the beginning of the interview, the cognitive interviewer explains that the purpose of the research is to learn what problems respondents are having with the questionnaire. The cognitive interviewer then trains the respondents to verbalize their thoughts during a practice session. Finally, the interviewer continuously asks respondents throughout the interview to verbalize their thoughts.

In the unstructured reconciliation, respondents will not be asked to report their thoughts while they are in the process of answering the questionnaire. Instead, the interviewer will point out that a discrepancy exists in a respondent's answer to the original and reinterview questions. The interviewer will then ask why the respondent thinks the discrepancy exists using a probe such as "Can you tell me more about that?". The advantage of using this method is that it may encourage "less verbal" respondents to express themselves.

The disadvantages with this method are:

- As with any small-scale study, the results are not generalizable.

- The unstructured reconciliation would take place after the original interview and reinterview. As a result, this interview may be subject to memory decay on the part of respondents. The third visit will also add to respondent burden.

B. Independent Computer-assisted Reinterview and Extensive Reconciliation

Another possibility is to conduct the reinterview and extensive reconciliation using computed-assisted interviewing (CATI or CAPI). The advantage of using CATI/CAPI over a paper questionnaire is that respondents' original responses can be suppressed during the reinterview, allowing total independence.

Another advantage is that one need not worry about the physical layout of the reinterview and extensive reconciliation probes. In the 1991-92 TFS Reinterview and Extensive Reconciliation, these probes needed to conform to the structure of a paper booklet. To meet this constraint, we developed a very condensed list of probes that weren't as natural sounding. As a result, they were less effective than we would have liked.

If this method is used, we suggest adequately pretesting the reconciliation probes. After all, one of the disadvantages of using standardized probes is that they are subject to the same problems as any other standardized questions. Consequently, we suggest giving more time for probe development.

The schedule for developing the 1991-92 TFS Reinterview and Extensive Reconciliation questionnaires was hurried. It allowed very little time for developing the probes, let alone pretesting them. In effect, the open-ended responses to the survey questionnaire can serve as a pretest for developing future reconciliation probes. They can be used to develop a more comprehensive list of closed-ended responses.

We also suggest taking a number of steps to help respondents express themselves more specifically.

- Provide the right environment for respondents, one in which they fully understand why we are conducting the reinterview and feel comfortable explaining their questionnaire problems. We explain the reason for the survey in the introduction, but it is likely that respondents don't really comprehend it. Research demonstrates that respondents often don't understand the purpose of a survey, but will respond to it nonetheless (Fowler and Mangione, 1990). It is also possible that they forget the reason by the time we get to the reconciliation portion. Perhaps we should remind them again just before we begin the reconciliation phase.

- Remove the "don't know" answer category from the questionnaire and train reinterviewers to probe respondents when they give some other general reason, such as "misunderstood question." In this case, reinterviewers can ask a probe, such as "Can you tell me more specifically what it is about the question that you misunderstood?".

- Train the reinterviewers to sufficiently slow down when they ask the open-ended reconciliation probes to give respondents the correct impression that we want them to take the time to think about and verbalize their answers.

There are still several disadvantages with this methodology:

- In those cases in which the original interview was conducted by mail, mode differences will exist. In these cases, one could never fully rule out mode as a reason for differences.

- This method does not provide much opportunity for "non-verbal" respondents to gain proficiency at expressing themselves. However, if the closed-ended probes are properly designed, this should matter less.

- This method is unlikely, under any circumstances, to capture problems that are related to the layout of the questionnaire. Respondents can not explain a problem of which they are unaware.

- The recommendations we've made--pretesting the reconciliation probes and using CATI--require an investment that may not be cost effective initially. However, if attention is given to developing this method, there may come a time when it provides useful, generalizable data of the sort not obtainable from other questionnaire evaluation methods.

C. Monitored Independent CATI Reinterview Followed by a Third-Call Reconciliation

Another method is to combine a CATI reinterview with audio taping and behavior coding. An experiment in the 1991 American Housing Survey used a less refined version of this technique (Waite, 1993). CATI interviewers performed the reinterview of the original cases completed in the field. The SFRs monitored the CATI reinterview. The SFRs used forms with the transcribed responses from the original interview to note discrepancies in respondents' answers. They also noted the behaviors of respondents and the CATI interviewers. After monitoring the reinterview, the SFR contacted the respondent again and performed a structured reconciliation.

A variation to this method would be to use cognitive interviewers in place of SFRs. These experts could then perform an unstructured reconciliation rather than a structured one.

We recommend audio taping reinterviews in the CATI centers instead of in personal visits or from the reinterviewers' homes (CAPI). Presently, the Survey of Income and Program Participation is taping reinterviews in respondents' homes with only a 61 percent success rate.

This method has two of the same disadvantages as given for the previous method:

- When the original interview is conducted by mail, mode differences may exist.
- This method is unlikely to capture questionnaire layout problems.

REFERENCES

Blair, J. and Sudman, S. 1993. "Respondent Perceptions of Reinterviews." Paper Prepared for Presentation at the Ninth Annual Research Conference. March 1993.

Bushery, J., Royce, D. and Kasprzyk, D. 1992. "The School and Staffing Survey: How Reinterview Measures Data Quality." *Proceedings of the Section on Survey Methods Research*. American Statistical Association. August, 1992.

Dillman, D.A. and Tarnai, J. 1990. "Mode Effects of Cognitively Designed Recall Questions: A Comparison of Answers to Telephone and Mail Surveys." Paper Prepared for Presentation at the International Conference of Measurement Error on Surveys. Tucson, Arizona. November, 1990.

Ericsson, K.A. and Simon, H.A. 1980. "Verbal Reports as Data." Psychological Review, Vol. 87:215-251.

Jenkins, C.R. and A.J. Wetzel. 1994. The Results of the 1992 Teacher Follow-up Survey (TFS) Reinterview and Extensive Reconciliation: Part One. U.S. Bureau of the Census Memorandum. March, 1994.

Jenkins, C.R and Dillman, D.A. 1993. "Combining Cognitive and Motivational Research Perspectives for the Design of Respondent-Friendly Self-Administered Questionnaires." Revision of a Paper Prepared for Presentation at the Annual Meetings of the American Association for Public Opinion Research. May, 1993.

Faupel, E., Bobbit, S. and Rohr, C. 1992. "1988-89 Teacher Followup Survey Data File User's Manual." National Center for Education Statistics. U.S. Department of Education. Office of Educational Research and Improvement. June 1992.

Forsman, G. and Schreiner, I. 1991. "The Design and Analysis of Reinterview: An Overview" in P.B. Biemer, R.M. Groves, L.E. Lyberg, N.A. Mathiowetz, and S. Sudman (eds), *Measurement Errors in Surveys*. New York: John Wiley and Sons, pp. 279-301.

Fowler, F.J. and Mangione, T.W. 1990. *Standardized Survey Interviewing*. Newbury Park: Sage Publications.

Harris, J.S. 1992. "Instructions for Conducting the 1992 TFS Reinterview." TFS Office Memorandum No. 92-10. March 2, 1992.

Koons, D.A. 1973. *Quality Control and Measurement of Nonsampling Error in the Health Interview Survey*. Washington, DC: National Center for Health Statistics. Series 2. Number 54 DHEW Publications No. HSM 73-1328. March, 1973.

Parmer, R.J., Shen, P. and Tan, A.I. 1992. "Mail Versus Telephone Response in the 1991 Schools and Staffing Surveys." *Proceedings of the Section on Survey Methods Research.* American Statistical Association. August, 1992.

Schreiner, I. 1980. "Reinterview Results from the CPS Independent Reconciliation Experiment (Second Quarter 1978 through Third Quarter 1979). Internal Census Bureau memorandum. May 7, 1980.

Tarnai, J. and Dillman, D.A. 1989. "Questionnaire Context as a Source of Response Differences in Mail vs. Telephone Surveys." Paper Prepared for Presentation at the First Nags Head Conference on Cognition and Survey Research. Nags Head, North Carolina. September, 1989.

Waite, P.J. 1993. "1991 AHS-N Experiment - Does CATI Miss Moderate Physical Problems." Internal Census Bureau Memorandum. March 8, 1993.

Listing of NCES Working Papers to Date

Number	Title	Contact
94-01	Schools and Staffing Survey (SASS) Papers Presented at Meetings of the American Statistical Association	Dan Kasprzyk
94-02	Generalized Variance Estimate for Schools and Staffing Survey (SASS)	Dan Kasprzyk
94-03	1991 Schools and Staffing Survey (SASS) Reinterview Response Variance Report	Dan Kasprzyk
94-04	The Accuracy of Teachers' Self-reports on their Postsecondary Education: Teacher Transcript Study, Schools and Staffing Survey	Dan Kasprzyk
94-05	Cost-of-Education Differentials Across the States	William Fowler
94-06	Six Papers on Teachers from the 1990-91 SASS and Other Related Surveys	Dan Kasprzyk
94-07	Data Comparability and Public Policy: New Interest in Public Library Data Papers Presented at Meetings of the American Statistical Association	Carrol Kindel
95-01	Schools and Staffing Survey: 1994 papers presented at the 1994 Meeting of the American Statistical Association	Dan Kasprzyk
95-02	QED Estimates of the 1990-91 Schools and Staffing Survey: Deriving and Comparing QED School Estimates with CCD Estimates	Dan Kasprzyk
95-03	Schools and Staffing Survey: 1990-91 SASS Cross-Questionnaire Analysis	Dan Kasprzyk

Listing of NCES Working Papers to Date (Continued)

Number	Title	Contact
95-04	National Education Longitudinal Study of 1988: Second Follow-up Questionnaire Content Areas and Research Issues	Jeffrey Owings
95-05	National Education Longitudinal Study of 1988: Conducting Trend Analyses of NLS-72, HS&B, and NELS:88 Seniors	Jeffrey Owings
95-06	National Education Longitudinal Study of 1988: Conducting Cross-Cohort Comparisons Using HS&B, NAEP, and NELS:88 Academic Transcript Data	Jeffrey Owings
95-07	National Education Longitudinal Study of 1988: Conducting Trend Analyses HS&B and NELS:88 Sophomore Cohort Dropouts	Jeffrey Owings
95-08	CCD Adjustments to the 1990-91 SASS: A Comparison of Estimates	Dan Kasprzyk
95-09	The Results of the 1993 Teacher List Validation Study (TLVS)	Dan Kasprzyk
95-10	The Results of the 1991-92 Teacher Follow-up Survey (TFS) Reinterview and Extensive Reconciliation	Dan Kasprzyk